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REPORT

OF THE

GOVERNMENT HOSPITAL FOR THE INSANE

TO THE

SECRETARY OF THE INTERIOR.

1889.

WASHINGTON:
GOVERNMENT PRINTING OFFICE.

1889.

REPORT

OF THE

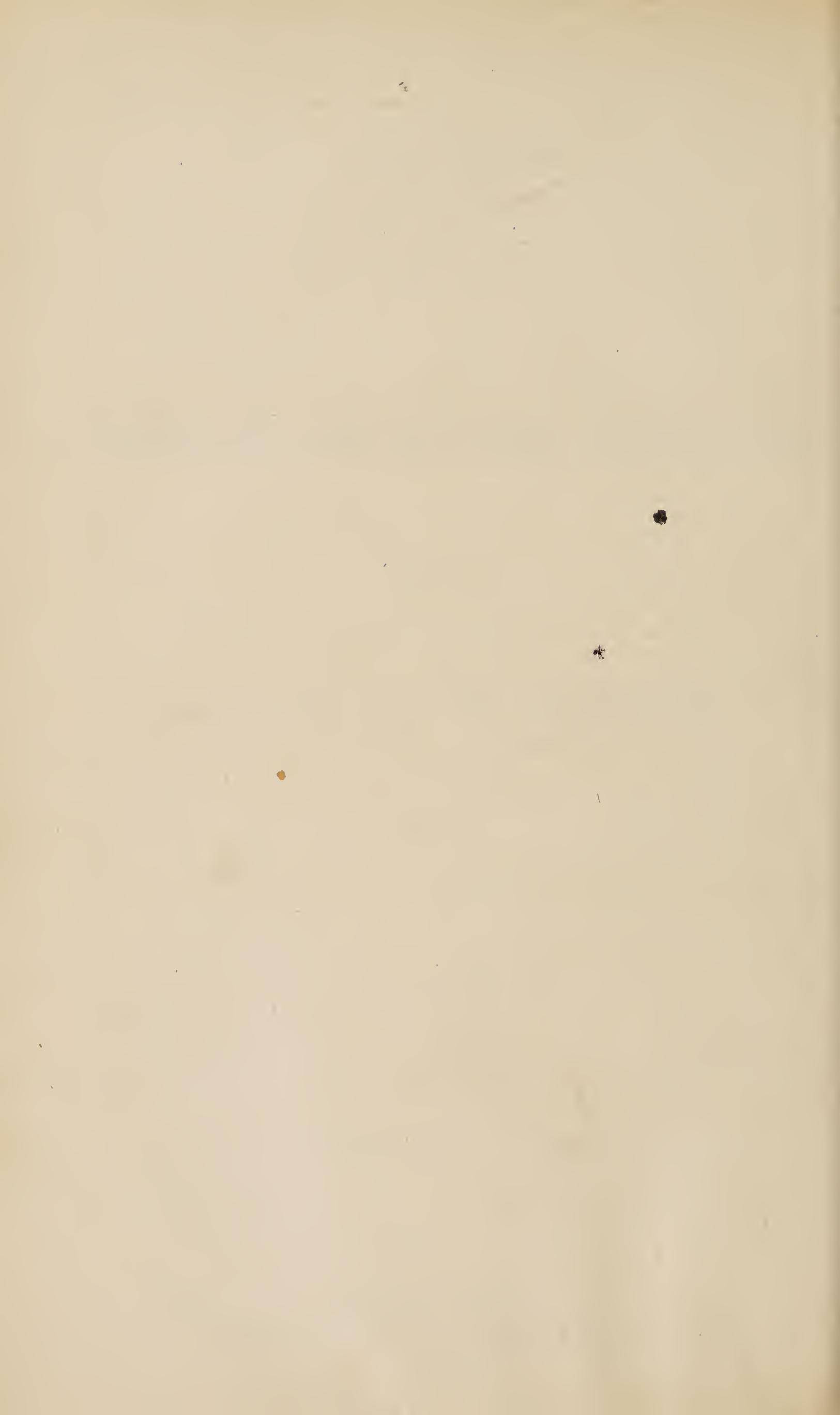
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REPORT

OF THE

BOARD OF VISITORS OF THE GOVERNMENT HOSPITAL FOR THE INSANE.

OFFICERS OF THE HOSPITAL, JUNE 30, 1889.

VISITORS:

JOSEPH M. TONER, M. D.,
President of the Board.
JAMES C. WELLING, LL. D.
Mrs. A. M. GANGEWER.
Mrs. AMELIA J. ROWLAND.
Hon. WILLIAM A. MAURY.

JOHN MOORE, M. D.,
SURGEON-GENERAL, U. S. A.
F. M. GUNNELL, M. D., U. S. N.
Rev. BYRON SUNDERLAND, D. D.
JOHN B. HAMILTON, M. D.,
SURGEON-GENERAL, M. H. S.

EXECUTIVE COMMITTEE OF THE BOARD:

Messrs. TONER, GUNNELL, and MOORE.

CHAPLAINS:

Rev. JOHN CHESTER, D. D.
Rev. A. FLORIDUS STEELE.
Rev. WILLIAM E. PARSON.

Rev. THOMAS B. HUGHES.
Rev. E. HERBERT RICHARDSON.

MEDICAL OFFICERS:

W. W. GODDING, M. D., *Superintendent and ex officio Secretary of Board of Visitors.*
A. H. WITMER, M. D., *First Assistant Physician, in charge of Female Department.*
M. J. STACK, M. D., *Second Assistant Physician, in charge of Male Department.*
A. C. PATTERSON, M. D., *Third Assistant Physician and Chief Clerk.*
J. C. SIMPSON, M. D., *Fourth Assistant Physician.*
I. W. BLACKBURN, M. D., *Special Pathologist.*
C. H. LATIMER, M. D., *Night Medical Inspector.*
J. V. CALVER, D. D. S., *Dentist.*

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REPORT
OF
THE BOARD OF VISITORS.

GOVERNMENT HOSPITAL FOR THE INSANE,
Washington, D. C., August 16, 1889.

SIR: The Board of Visitors have the honor to submit this, their thirty-fourth annual report, that for 1889.

The following tables give a condensed statement of the movements of population and the results of a year of hospital work:

SUMMARY.

	Males.	Females.	Total.
Remaining June 30, 1888.....	1,029	332	1,361
Admitted during the year ending June 30, 1889	213	67	280
Whole number under treatment.....	1,242	399	1,641
DISCHARGED.			
Recovered	50	20	70
Improved	27	27	54
Unimproved	4	2	6
Died	86	28	114
Total discharged and died.....	167	77	244
Remaining June 30, 1889.....	1,075	322	1,397

Admissions and discharges.

	Males.	Females.	Totals.
REMAINING JUNE 30, 1888.			
Army.....	623	3	
{ White	623		
{ Colored	11		
	634	3	
		3	
Navy	56		
{ White	56		
{ Colored	2		
	58		
Marine Hospital Service.....	14		
{ White	14		
{ Colored	2		
	16		
Civil life	233	238	
{ White	233	238	
{ Colored	88	91	
	321	329	
	1,029	332	1,361
		5	

Admissions and discharges—Continued.

		Males.		Females.		Total.
ADMITTED DURING THE YEAR 1888-'89.						
Army	{ White ..	108				
	{ Colored ..	3				
			111			111
Navy	{ White ..	13				
	{ Colored ..	1				
			14			14
Marine Hospital Service	{ White ..	7				
	{ Colored ..					
			7			7
Civil life	{ White ..	57				
	{ Colored ..	24				
			81			148
				213		280
UNDER TREATMENT DURING THE YEAR.						
Army	{ White ..	731				
	{ Colored ..	14				
			745			748
Navy	{ White ..	69				
	{ Colored ..	3				
			72			72
Marine Hospital Service	{ White ..	21				
	{ Colored ..	2				
			23			23
Civil life	{ White ..	290				
	{ Colored ..	112				
			402			798
				1, 242		1, 641
DISCHARGED DURING THE YEAR—RECOVERED.						
Army	{ White ..	17				
	{ Colored ..	4				
			21			21
Navy	{ White ..	7				
	{ Colored ..	1				
			8			8
Marine Hospital Service	{ White ..	5				
	{ Colored ..					
			5			5
Civil life	{ White ..	14				
	{ Colored ..	2				
			16			36
				50		70
DISCHARGED DURING THE YEAR—IMPROVED.						
Army	{ White ..	16				
	{ Colored ..					
			16			16
Navy	{ White ..					
	{ Colored ..					
Marine Hospital Service	{ White ..					
	{ Colored ..					
Civil life	{ White ..	11				
	{ Colored ..					
			11			38
				27		54
DISCHARGED DURING THE YEAR—UNIMPROVED.						
Army	{ White ..	2				
	{ Colored ..					
			2			2
Navy	{ White ..					
	{ Colored ..					
Marine Hospital Service	{ White ..					
	{ Colored ..					
Civil life	{ White ..	2				
	{ Colored ..					
			2			4
				4		6

Admissions and discharges—Continued.

		Males.	Females.	Total.
DECEASED DURING THE YEAR.				
Army.....	{ White .. Colored ..	58 ----- 58		58
Navy	{ White .. Colored ..	2 ----- 2		2
Marine Hospital Service.....	{ White .. Colored ..	2 ----- 2		2
Civil life.....	{ White .. Colored ..	14 10 ----- 24	19 9 ----- 28	52 ----- 28 ----- 114
REMAINING JUNE 30, 1889.				
Army.....	{ White .. Colored ..	638 10 ----- 648	3 ----- 3	651
Navy	{ White .. Colored ..	60 2 ----- 62		62
Marine Hospital Service.....	{ White .. Colored ..	14 2 ----- 16		16
Civil life.....	{ White .. Colored ..	249 100 ----- 349	227 92 ----- 319	668 ----- 322 ----- 1,397

The patients from civil life remaining June 30, 1889, are classified as follows:

	Male.	Female.	Total.
District of Columbia—transient.....	43	20	63
District of Columbia—resident indigent.....	257	291	548
United States convicts and criminals.....	45	5	50
Private patients	4	3	7
Total.....	349	319	668

Monthly changes of population.

Date.	Admitted.			Discharged.			Died.			Total discharges, including deaths.
	Males.	Females.	Total.	Males.	Females.	Total.	Males.	Females.	Total.	
July, 1888.....	16	15	31	8	15	23	5	4	9	32
August, 1888.....	16	10	26	7	7	14	10	1	11	25
September, 1888.....	29	3	32	.....	3	3	7	2	9	12
October, 1888.....	31	4	35	6	4	10	3	3	6	16
November, 1888.....	6	8	14	14	1	15	14	1	15	30
December, 1888.....	15	5	20	15	6	21	5	1	6	27
January, 1889.....	12	4	16	2	3	5	9	2	11	16
February, 1889.....	8	6	14	4	1	5	8	2	10	15
March, 1889.....	39	2	41	4	4	8	5	3	8	16
April, 1889.....	18	4	22	4	3	7	4	5	9	16
May, 1889.....	14	6	20	9	.....	9	9	2	11	20
June, 1889.....	9	.....	9	8	2	10	7	2	9	19
Total	213	67	280	81	49	130	86	28	114	244

Cause of death.

Apoplexy	5	General paralysis, with gastritis	1
Apoplexy, hemorrhagic		Gangrene, pulmonary	1
Apoplexy, with organic disease of brain	3	Gangrene, senile	2
Bright's disease, chronic	2	Maniacal exhaustion	1
Bronchitis	1	Organic disease of brain	6
Bronchitis, chronic, with cardiac atrophy	1	Organic disease of brain, with pneumonia	1
Bronchitis, chronic, with diarrhoea	1	Organic disease of brain, with bulbar paralysis	3
Carcinoma	6	Paralysis, bulbar	1
Cardiac valvular disease	5	Peritonitis	3
Dysentery, with abscess of liver	1	Phthisis	23
Epileptic convulsions	3	Pneumonia	2
Epileptiform convulsions	3	Pulmonary congestion	3
Exhaustion and inanition	5	Peri-nephritic abscess with pyæmia	1
Empyema	1	Senectus	4
Fever, pernicious remittent	1	Senectus with diarrhoea	2
Fever, typho-malarial	1	Senectus with organic disease of brain	5
General paralysis	2	Suicide (drowning)	1
General paralysis with bulbar paralysis	2	Ulceration of gall-bladder with acute peri-hepatitis	1
General paralysis with diarrhoea	1		
General paralysis with epileptiform convulsions	5		
General paralysis with exhaustion	3		
		Total	114

Duration of the mental disease on admission of those who recovered.

Under 10 days	10	Between 8 and 10 months	1
Between 10 and 20 days	8	Between 1 and 2 years	2
Between 20 and 30 days	2	Between 3 and 4 years	2
Between 1 and 2 months	22	Between 4 and 5 years	1
Between 2 and 3 months	5	Between 9 and 10 years	1
Between 3 and 4 months	10		
Between 4 and 5 months	2	Total	70
Between 6 and 8 months	4		

Duration of mental disease of those who died.

One month	1	Twelve years	5
Three months	1	Thirteen years	5
Four months	1	Fifteen years	1
Six months	5	Sixteen years	2
Nine months	3	Seventeen years	3
Ten months	1	Eighteen years	1
One year	16	Twenty years	3
Two years	23	Twenty-one years	1
Three years	10	Twenty-two years	2
Four years	4	Twenty-three years	2
Five years	4	Twenty-six years	2
Six years	3	Twenty-seven years	1
Seven years	3	Thirty years	1
Eight years	2	Unknown	1
Nine years	3		
Ten years	1		
Eleven years	3		
		Total	114

Duration of disease on admission.

		Males.	Females.	Totals.
LESS THAN SIX MONTHS.				
Army	{ White... Colored...	23 1	24	24
Navy	{ White... Colored...	5 1	6	6
Marine Hospital Service.....	{ White ... Colored...	6	6	6
Civil life	{ White .. Colored...	27 11	18 11	67
		38	74	29
				103
LESS THAN ONE YEAR.				
Army	{ White... Colored...	6	6	6
Navy	{ White... Colored...	.....	
Marine Hospital Service.....	{ White... Colored...	.....	
Civil life	{ White... Colored...	4 2	6 1	13
		6	12	7
				19
ONE TO TWO YEARS.				
Army	{ White... Colored...	34 1	35	35
Navy	{ White... Colored...	5	5	5
Marine Hospital Service	{ White... Colored...	1	1	1
Civil life	{ White... Colored...	12 4	7 4	27
		16	57	11
				68
OVER TWO YEARS.				
Army	{ White... Colored...	18	18	18
Navy	{ White... Colored...	.....	
Marine Hospital Service.....	{ White... Colored...	4	4	4
Civil life	{ White... Colored...	.....	22	22
OVER THREE YEARS.				
Army	{ White... Colored...	5 1	6	6
Navy	{ White... Colored...	2	2	2
Marine Hospital Service.....	{ White... Colored...	.....	
Civil life	{ White... Colored...	3	2 1	6
		3	11	3
				14

Duration of disease on admission—Continued.

		Males.		Females.		Total.
OVER FOUR YEARS.						
Army	{ White .. Colored ..	6 6				6
Navy	{ White .. Colored ..					
Marine Hospital Service	{ White .. Colored ..					
Civil life	{ White .. Colored ..	1 1		7		1
						7
FIVE TO TEN YEARS.						
Army	{ White .. Colored ..	7 7				7
Navy	{ White .. Colored ..					
Marine Hospital Service	{ White .. Colored ..					
Civil life	{ White .. Colored ..	1 4		3		8
		5	12	3	3	15
TEN TO TWENTY YEARS.						
Army	{ White .. Colored ..	2 2				2
Navy	{ White .. Colored ..	1 1				1
Marine Hospital Service	{ White .. Colored ..					
Civil life	{ White .. Colored ..	5 3		5 3		16
		8	11	8	8	19
OVER TWENTY YEARS.						
Army	{ White .. Colored ..	7 7				7
Navy	{ White .. Colored ..					
Marine Hospital Service	{ White .. Colored ..					
Civil life	{ White .. Colored ..			2 2		4
		7		4	4	11
UNKNOWN.						
Army	{ White .. Colored ..					
Navy	{ White .. Colored ..					
Marine Hospital Service	{ White .. Colored ..					
Civil life	{ White .. Colored ..			2	2	2
				2	2	2

Table showing the nativity as far as could be ascertained of the 7,511 cases treated.

Native born.	Number.	Foreign born.	Number.
District of Columbia.....	900	Ireland	1,416
New York	527	Germany	953
Maryland	565	England	168
Virginia	637	France	65
Pennsylvania.....	404	Canada	59
Ohio	228	Scotland	62
Massachusetts.....	168	Switzerland	29
Maine	82	Italy	29
Illinois	73	Denmark	21
Connecticut	58	Norway	14
New Hampshire	59	Sweden	27
Indiana	65	Poland	14
Kentucky	55	Prussia	2
Michigan	42	Panama	1
New Jersey	66	Russia	13
Tennessee	33	Austria	15
Wisconsin	28	Nova Scotia	9
Vermont	35	Spain	4
Missouri	39	Holland	10
Rhode Island	24	Wales	6
Delaware	16	Portugal	4
North Carolina	28	Hungary	4
Alabama	13	Mexico	5
South Carolina	16	Saxony	6
Iowa	7	Malta	3
Georgia	18	Belgium	4
Mississippi	19	Buenos Ayres	1
Louisiana	10	Costa Rica	1
West Virginia	15	Bavaria	4
Kansas	3	Sicily	1
Florida	3	British Columbia	1
Texas	10	British Possessions	1
California	6	East Indies (British)	5
Indian Territory	5	West Indies (British)	6
Colorado	1	New Brunswick	2
Arkansas	3	Cuba	2
Montana	1	China	1
Oregon	1	Sandwich Islands	1
Minnesota	1	Coast of Africa	1
Total	4,264	Cyprus	1
		Turkey	1
		Greece	1
		New Granada	1
		West Indies (Hayti)	1
		Total	2,975

Native born.....	4,264
Foreign born	2,975
Unknown	272
Total	7,511

Form of disease in those admitted.

Disease.	Total last year.	Admitted during year.	Total.	Disease.	Total last year.	Admitted during year.	Total.
Mania, acute	2,299	57	2,356	Dipsomania	435	1	436
Mania, chronic	1,239	37	1,276	Kleptomania	4	.....	4
Melancholia	1,048	97	1,145	Nymphomania	4	.....	4
Dementia	1,740	44	1,784	Imbecility	90	5	95
Dementia, senile	162	24	186	Opium-eaters	19	.....	19
Paresis	176	15	191	Idiocy	1	.....	1
Typhomania (Bell's disease)	2	.....	2	Not insane	11	.....	11
Diffuse suppurative meningitis	1	.....	1	Total	7,231	280	7,511

Tabular statement of the time of life at which the 7,511 cases treated since the opening of the institution became insane.

Age.	1888.	1889.	Total.
Under 10 years	155	11	166
Between 10 and 15 years	75	4	79
Between 15 and 20 years	408	8	416
Between 20 and 25 years	1,164	35	1,199
Between 25 and 30 years	1,314	36	1,350
Between 30 and 35 years	1,138	22	1,160
Between 35 and 40 years	842	23	865
Between 40 and 45 years	616	21	637
Between 45 and 50 years	447	40	487
Between 50 and 60 years	499	37	536
Between 60 and 70 years	277	32	309
Between 70 and 80 years	106	8	114
Between 80 and 90 years	14	1	15
Over 90 years	2	—	2
Unknown	163	2	165
Not insane	11	—	11
Total	7,231	280	7,511

Private patients.

	Male.	Female.	Total.
There were at the beginning of the year	5	4	9
Admitted during the year	—	1	1
Whole number under treatment	5	5	10
Discharged during the year	1	2	3
Remaining at end of year	4	3	7

GOVERNMENT HOSPITAL FOR THE INSANE.

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Table showing the history of the annual admissions since the opening of the hospital, with the discharges and deaths, and the number for each year remaining June 30, 1889.

Years.	Admitted.		Of each year's discharged and died in 1889.						Total discharged and died of each year's admissions.						Remaining of each year's admissions June 30, 1889.						
	New cases.	Relapsed cases.	Recovered.			Improved.			Unimproved.			Died.			Recovered.			Improved.			
			Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	
1855	26	37	63	47	110	9	6	15	1	1	2	3	4	7	19	26	45	2	3	5	
1855-'56	36	25	52	43	95	6	6	14	2	1	3	2	4	2	20	3	23	3	1	4	
1856-'57	24	11	2	3	5	4	3	20	1	1	7	7	4	7	11	9	20	5	5	5	
1857-'58	27	15	2	3	65	11	4	20	2	8	21	5	11	14	1	1	2	1	2	3	
1858-'59	45	19	1	5	92	15	6	17	6	2	4	1	4	18	11	18	26	2	2	3	
1859-'60	67	30	4	1	95	19	1	9	1	3	2	2	1	2	18	11	29	2	2	4	
1860-'61	60	172	11	2	186	323	18	7	355	1	1	1	1	1	1	11	11	29	1	2	3
1861-'62	172	11	2	1	186	323	18	7	355	1	1	1	1	1	1	1	1	1	1	1	1
1862-'63	63	23	22	2	509	23	2	514	2	2	2	2	2	2	2	2	2	2	2	2	
1863-'64	462	34	26	2	514	34	2	514	1	1	1	1	1	1	1	1	1	1	1	1	
1864-'65	452	14	32	19	168	14	32	19	3	168	1	1	1	1	1	1	1	1	1	1	
1865-'66	182	24	12	4	222	24	12	4	222	1	1	1	1	1	1	1	1	1	1	1	
1866-'67	71	18	17	3	109	15	5	153	1	1	1	1	1	1	1	1	1	1	1	1	
1867-'68	105	28	15	5	153	32	19	19	3	168	1	1	1	1	1	1	1	1	1	1	
1868-'69	114	32	37	23	168	37	23	14	204	1	1	1	1	1	1	1	1	1	1	1	
1869-'70	130	26	16	10	189	130	26	16	10	189	1	1	1	1	1	1	1	1	1	1	
1870-'71	147	28	14	6	195	147	28	14	6	195	1	1	1	1	1	1	1	1	1	1	
1871-'72	120	38	22	6	186	120	38	22	6	186	1	1	1	1	1	1	1	1	1	1	
1872-'73	130	37	23	14	204	130	37	23	14	204	1	1	1	1	1	1	1	1	1	1	
1873-'74	165	28	27	10	230	165	28	27	10	230	1	1	1	1	1	1	1	1	1	1	
1874-'75	155	37	24	14	230	155	37	24	14	230	1	1	1	1	1	1	1	1	1	1	
1875-'76	136	37	30	10	213	136	37	30	10	213	1	1	1	1	1	1	1	1	1	1	
1876-'77	119	37	28	14	198	119	37	28	14	198	1	1	1	1	1	1	1	1	1	1	
1877-'78	109	31	29	13	182	109	31	29	13	182	1	1	1	1	1	1	1	1	1	1	
1878-'79	138	42	31	11	222	138	42	31	11	222	1	1	1	1	1	1	1	1	1	1	
1879-'80	159	33	22	11	225	159	33	22	11	225	1	1	1	1	1	1	1	1	1	1	
1880-'81	135	51	26	11	223	135	51	26	11	223	1	1	1	1	1	1	1	1	1	1	
1881-'82	151	59	27	10	247	151	59	27	10	247	1	1	1	1	1	1	1	1	1	1	
1882-'83	169	51	32	13	265	169	51	32	13	265	1	1	1	1	1	1	1	1	1	1	
1883-'84	245	41	7	347	245	54	41	7	347	1	1	1	1	1	1	1	1	1	1	1	
1884-'85	203	72	26	19	320	203	72	26	19	320	1	1	1	1	1	1	1	1	1	1	
1885-'86	205	57	29	12	303	205	57	29	12	303	1	1	1	1	1	1	1	1	1	1	
1886-'87	184	52	22	10	268	184	52	22	10	268	1	1	1	1	1	1	1	1	1	1	
1887-'88	230	62	17	9	318	230	62	17	9	318	2	2	2	2	2	2	2	2	2	2	
1888-'89	190	58	23	9	280	190	58	23	9	280	27	10	37	7	10	37	7	10	17	2	
Totals	5,386	1,226	639	260	7,511	50	20	70	27	54	4	2	6	86	28	114	2,398	405	2,803	883	
																			207	1,165	138
																			207	1,075	322
																			207	1,939	1,397

GOVERNMENT HOSPITAL FOR THE INSANE.

Table showing admissions, discharges, and deaths, with the mean annual mortality and proportion of recoveries, per cent. of the discharges, including deaths, for each year since the opening of the hospital.

Years.	Admitted.		Discharged.		Remaining June 30 in each year.		Daily average.		Percentage of recoveries on discharges.		Percentage of deaths on average numbers.		Percentage of deaths on total numbers under treatment.		
	Recovered.	Unimproved.	Died.	Total.	Female.	Male.	Total.	Female.	Male.	Total.	Female.	Male.	Total.	Female.	Male.
1885-'56	26	37	63	3	2	5	1	1	1	26	34	60	19.35	20.65	40.00
1856-'57	36	11	47	3	2	5	1	1	1	54	39	93	41.20	37.98	79.18
1857-'58	25	27	52	2	4	5	2	2	7	6	13	50	59	52	42.80
1858-'59	29	14	43	13	5	5	3	2	6	10	18	54.55	42.80	97.35	10.00
1859-'60	47	18	65	16	5	5	3	2	4	10	18	57.70	50.31	108.01	156.5
1860-'61	68	24	92	26	7	7	5	2	12	7	19	106	168	159.68	59.00
1861-'62	64	31	95	42	11	11	5	2	26	10	36	147	65	212	12.03
1862-'63	174	12	186	96	8	104	14	1	15	18	1	203	76	279	129.17
1863-'64	330	25	355	197	6	203	17	1	18	5	3	57	4	61	157.14
1864-'65	484	25	509	282	6	288	69	1	70	5	67	8	75	264	86
1865-'66	478	36	514	315	9	324	110	12	122	11	11	139	8	147	147.65
1866-'67	194	28	222	104	5	109	20	7	27	10	1	41	12	53	123.75
1867-'68	88	21	109	45	7	52	11	3	14	11	12	19	14	33	168.41
1868-'69	120	33	153	49	15	64	6	2	8	5	6	22	5	27	121.72
1869-'70	146	36	182	32	8	40	16	8	24	11	3	14	3	18	11.41
1870-'71	161	34	195	50	12	62	21	7	28	4	3	14	3	11	14.17
1871-'72	142	44	186	43	8	51	16	13	29	8	1	35	9	37	11.43
1872-'73	153	51	204	49	15	64	23	5	28	3	3	35	12	45	14.11
1873-'74	192	38	230	67	12	79	22	8	30	6	3	39	11	50	14.15
1874-'75	179	51	230	66	9	75	28	22	50	8	3	11	51	7	53.6
1875-'76	166	47	213	67	17	84	26	10	36	1	1	48	18	66	16.47
1876-'77	147	51	198	66	17	83	27	13	40	2	2	45	7	52	14.17
1877-'78	138	44	182	49	11	60	32	9	41	3	4	37	9	46	14.11
1878-'79	169	53	222	68	24	92	30	7	37	3	3	3	3	6	17.63
1879-'80	181	44	225	38	14	52	23	10	33	1	1	46	13	59	14.19
1880-'81	161	62	223	62	10	72	27	9	36	1	1	46	12	63	14.21
1881-'82	178	69	247	62	21	83	31	8	39	2	5	7	4	2	14.21
1882-'83	201	64	265	76	19	95	33	16	49	1	1	49	17	66	14.21
1883-'84	286	61	347	68	13	81	35	8	43	3	1	43	12	84	14.21
1884-'85	229	91	320	65	24	89	37	12	49	1	1	49	17	66	14.21
1885-'86	234	69	303	55	22	77	58	15	73	2	3	5	79	23	14.21
1886-'87	206	62	268	57	15	72	49	17	66	2	1	44	12	84	14.21
1887-'88	247	71	318	59	10	69	52	14	66	3	1	44	12	84	14.21
1888-'89	213	67	280	50	20	25	120	1	029	332	1	361	1	009	55.315.551

Summary of total admissions.

	Male.	Female.	Both sexes.
Percentages of cases recovered	39.80	27.25	37.32
Percentages of cases improved	14.66	18.98	15.51
Percentages of cases unimproved	2.29	4.64	2.76
Percentages of cases died	25.41	27.46	25.82
Percentages of cases remaining	17.84	21.67	18.59
	100.00	100.00	100.00

The admission for the year ending June 30, 1889, have been 280; the discharges, including 114 deaths, have been 244, leaving 1,397 under treatment at the close of the year. The recoveries are reported as 70, being 28.69 per cent. of the discharges, including deaths. The daily average number in the hospital has been 1,373, which shows a steady increase in its population. The per cent. of deaths to the daily average number resident is 8.30, which is very nearly the average per cent. for the last ten years and is considerably below what the advanced age of so large a proportion of the hospital inmates would lead us to expect. The veterans of the late war continue to be received in undiminished numbers from the Home for Disabled Volunteer Soldiers, although each returning season thins their ranks in the outside world and adds to the burden of years of the survivors. How long the increased number of admissions from the home will continue it is impossible to foretell, but, probably, it will be some years yet before the advancing mortality will more than counterbalance the increase in mental disease, resulting from the infirmities of age conjoined with that inertia of life and loss of ambition and energy which seems to be inseparable from those conditions that compel the old soldier to take refuge in that asylum.

The increase in the number of patients from the District of Columbia has not been as great as in one or two former years. While a temporary diminution in the number of admissions has probably resulted from an embarrassment from want of appropriations in defraying the expenses of the jury trial which the decision of the court in regard to the law of commitment has rendered necessary, probably more is due to a commendable energy on the part of the District authorities in returning to the several homes from whence they had set out the lunatics of varying degree who come from the East and from the West and from the North and from the South, to make Washington their headquarters. Whoever has a grievance, or a new scheme of government, or a call to enlighten Congress, or to help the President in his appointments, or a new gospel to proclaim, all these and as many more go to swell the tide which is constantly setting in towards the District of Columbia, a tide that, unlike all other tides, never of its own accord turns out to sea. But for the vigilant watch and prompt action of the authorities in returning these people with a mission to the neighborhoods whence they sprung, the rural districts would shortly be depleted of their insane, while this hospital was being overcrowded with them.

Of the additional accommodations that have been recently made, and the advantages resulting to the hospital therefrom, a word is proper here. The extensions of the lodges for the colored insane, particularly that for the females, seems to have made an actual change in the character of many of the patients. Crowded into insufficient quarters they

had grown careless, noisy, and destructive in habits, requiring more or less seclusion and restraint, until both attendants and physicians had accepted the situation as the inevitable, and the best that could be done. Now, changed to new quarters, with their light common dining hall, their fresh and trim associate dormitories and rooms, with everything quiet and orderly about them, they have gone to work, have forgotten to be noisy and destructive, the change in their quarters having wrought in them a notable change for the better, an improvement in those chronic, turbulent cases beyond what we had dared to hope.

The convict and criminal class of the insane, including military prisoners, now constitute a considerable item of the population, being 63 in number. It is clear that Howard Hall, the building erected for this class of our inmates, was not opened a day too soon.

This building has accommodation for 60 patients in single rooms, and already we notice here something of the same improvement in conduct and condition so marked in the case of the colored female insane. They are more securely kept, but they have their work room and their smoking room, and therein grow content. The defect is that the building is not large enough for the prospective increase of the classes for whom it is intended to provide. Howard Hall as at present constructed is really but one-half of the plan as originally projected. It is in contemplation in the near future, as the urgent need becomes apparent, to ask appropriations to add a building corresponding very nearly to the present one, which will give to the completed Howard Hall the form of a hollow square, inclosing a perfectly secure ground where the inmates can be at will in the open air and sunshine. Here they can grow plants, keep their pet birds and animals, and make it their home. With the accommodations thus augmented to one hundred and twenty single rooms, it will be possible to make liberal and humane provision for all the convict class entirely distinct from the so-called criminal, and that again distinct from the homicidal and dangerous element against whom no crime is charged, for all of whom Howard Hall will then afford secure asylum.

The wise liberality of the last Congress has provided a pavilion for the sick with all the light and air and varied appliances for their care which are found in the best modern general hospitals, a building whose erection is now being rapidly pushed forward, which when completed and occupied will afford solace and healing to the sick, as well as relief to the others by their removal from the common wards. The great need for an infirmary annex for the feeble and the sick in their early convalescence is only too apparent and the request for the same, together with a full discussion of its merits, will be found under the head of estimates for the coming fiscal year.

It is no longer a question whether more accommodations are to be built—the steady increase in population has settled that—but what form shall such additional accommodations take? What is the annual increase in the number of the insane for whom this provision must be made? In the community at large we may estimate it at one hundred and twenty-five for every million of the inhabitants. The Government hospital is exceptional in this, that, aside from the District of Columbia, whose population for the purposes of this inquiry may be considered a quarter of a million, it receives its accessions from classes of the service that are nearly stationary in numbers, and of which such annual increase can not be predicated. There is, however, a constant increment from the Home for Disabled Volunteer Soldiers and from the District

of Columbia. Taking the record of the last ten years we find the lowest gain in the daily annual average was thirty-four, and the highest one hundred and twenty-eight. Omitting the latter, which was in 1884-'85 and due to the change in the law admitting the inmates of the home, we find the average annual increase for each year to be almost exactly 4 per cent., which means provision for an annual increase of accommodations to the extent of fifty beds. It is important that this additional accommodation each year should take the form which will afford the most perfect classification and hence the greatest relief to the whole.

The following table of farm products shows what has been taken from the farm for the hospital during the fiscal year 1889.

Table of farm and garden products.

Apples, 211½ bushels at 50 cents	\$105.75
Asparagns, 2,030 bunches, at 6 cents	121.80
Beans (string), 508½ bushels, at 75 cents	381.37
Beans (Lima), 228 bushels, at \$1.30	296.40
Beets, 335 bunches, at 2 cents	6.70
Beets, 421 bushels, at 70 cents	294.70
Cabbage, 49,498 heads, at 8 cents	3,959.84
Cabbage sprouts, 317 barrels, at \$1	317.00
Cantaloupes, 9,748, at 8 cents	779.84
Carrots, 719 bunches, at 2 cents	14.38
Carrots, 56½ bushels, at 50 cents	28.25
Chickens, 235 pounds, at 12 cents	28.20
Corn (green ears), 1,564½ dozen, at 15 cents	234.62
Cucumbers, 1,597 dozen, at 10 cents	159.70
Currents, 462 quarts, at 15 cents	69.30
Celery, 16,458 bunches, at 5 cents	822.90
Ducks, 111 pounds, at 12 cents	13.32
Egg plants, 4,234, at 6 cents	254.04
Eggs, 1,589½ dozen, at 20 cents	317.90
Figs, 24 quarts, at 25 cents	6.00
Grapes, 9,715 pounds, at 5 cents	485.75
Geese, 4, at \$1	4.00
Honey, 200 pounds, at 20 cents	40.00
Kale, 335 barrels, at \$2	670.00
Leeks, 2,885 bunches, at 3 cents	86.55
Lettuce, 18,496 heads, at 3 cents	554.88
Milk, 63,989 gallons, at 25 cents	15 997.25
Onions, 36 bushels, at 65 cents	23.40
Onions, 12,987 bunches, at 2 cents	259.74
Onion (sets), 25 bushels, at \$4	100.00
Oyster plant, 2,100 bunches, at 3 cents	63.00
Parsley, 6,240 bunches, at 2 cents	124.80
Parsnips, 398 bushels at 75 cents	298.50
Peaches, 283½ bushels, at \$2	567.00
Peas, 174½ bushels, at \$1	174.25
Peppers, 25½ bushels, at \$1	25.50
Pork, 8,735 pounds, at 7 cents	611.45
Potatoes (Irish), 941 bushels, at 70 cents	658.70
Pears, 23½ bushels, at \$1.50	35.62
Plums, 1½ bushels, at \$2	2.50
Quinces, 29 bushels, at \$2.50	72.50
Rhubarb, 4,442 bunches, at 2 cents	88.84
Radishes, 4,973 bunches, at 2 cents	99.46
Sweet potatoes, 436 bushels, at 75 cents	327.00
Summer squash, 2,943, at 1 cent	29.43
Strawberries, 2,007 quarts, at 12 cents	240.84
Turnips, 1,3-7 bushels, at 45 cents	624.15
Tomatoes, 2,179½ bushels, at 50 cents	1,080.75
Sale of stock	705.25
 Total	 32,272.12

The following products consumed on the farm can not be considered a part of the profits :

Corn fodder (green), 10 acres, at \$35	\$350.00
Corn fodder (dry), 20 tons, at \$15	300.00
Corn, 26 barrels, at \$2.50	65.00
Grass (green), 20 acres, at \$35	700.00
Hay, 300 tons, at \$13	3,900.00
Kale, 209 barrels, at \$2	418.00
Parsnips, 69 bushels, at 50 cents	34.50
Rye (dry), 100 tons, at \$13	1,300.00
Rye (green), 15 acres, at \$35	525.00
Turnips, 469 bushels, at 45 cents	211.05
 Total	 7,803.55

The production of the farm varies somewhat from year to year, being affected by the varying seasons of drought or deluge, yet, taking one crop with another, it is plain that the productiveness is increasing and that it is a most valuable adjunct to the hospital. Its great value is as a dairy farm in affording milk for the inmates. Very much of the forage produced is converted into this as a final product, hence these crops are not included in the table of total value of farm products. It will be seen that the milk value is nearly one-half of the whole. The need for new sites for buildings and their grounds has seriously encroached upon lands formerly planted in crops, so that an urgent necessity exists for more territory for grass lands and grazing, as is fully set forth in the estimates. That the management of the farm is making it more productive rather than impoverishing it will be made clear by some comparisons with the results of ten years ago. The herd of milch cows has been considerably increased—thanks to our new barn—but no new territory has been added, and the small portions hitherto in woodland that have been brought into cultivation are more than offset by the grounds taken from the farm as sites for the detached buildings. In 1879 the milk product, 31,461 gallons, valued at 28 cents a gallon, amounted to \$8,809.08. In 1889 it was 63,989 gallons, or more than double the amount in 1879, which, valued at 25 cents a gallon, amounted to \$15,997.25. The tomato crop in 1879 was 813 $\frac{3}{4}$ bushels; in 1889, 2,179 $\frac{1}{2}$ bushels. The cabbages in 1879 amounted to 16,393 heads; in 1889, to 49,498 heads. On the other hand, there were 495 bushels of peas in 1879 against 174 $\frac{1}{4}$ bushels in 1889, and a pork product of 17,931 pounds in 1879 against only 8,735 pounds in 1889, a decrease from hog cholera. But, taking the total valuation of the products, outside of hay and forage not included, the estimate being at market prices as near as could be ascertained, that of 1879 was \$17,571.89 and that of 1889 was \$32,272.12, showing that farm land is valuable to the hospital and should be increased.

The question of the wages paid to the attendants on the insane having been considered in the committees of the last Congress and having been finally practically left, as it always has been, for the hospital authorities to determine, they, after a careful study of the subject in all its relations and bearings, have adopted a scale of wages which it is thought will be a satisfactory solution of the whole matter, and afford by its graded service intelligent and efficient supervision and care of the insane.

ESTIMATES FOR THE FISCAL YEAR ENDING JUNE 30, 1891.

The estimates for expenditures for the fiscal year ending June 30, 1891, are :

For current expenses	\$313,500
For general repairs and improvements	15,000

For special repairs and improvements, viz :

Lodge at lower entrance.....	\$2,000
Infirmary wing, with connections.....	36,000
Completing changes in heating apparatus, including new chimney and boiler-house.....	8,000
Extension of kitchen and furnishing same.....	5,000
Rebuilding carpenter and machine shop.....	4,000
For additional agricultural land.....	10,000

The estimate for current expenses is for support in the hospital, including treatment and clothing, of an estimated average number of 1,425 indigent insane persons who by law are entitled to treatment here, viz, the insane of the Army and Navy, Marine Corps, Revenue-Cutter Service, National Home for Disabled Volunteer Soldiers, the indigent insane of the District of Columbia, and the United States convict insane. Some classes entitled by law to treatment here, but whose expenses are defrayed from other sources, are not included in this enumeration. The basis of estimate is an annual per capita cost of \$220. Congress has of late provided for a portion of this expenditure in the bill making appropriations for the District of Columbia. The amount in the last bill was \$85,000. Based on the ratio of increase of inmates from the District during the past year the amount to be appropriated in this bill will be \$87,500, leaving the sum of \$226,000 to be provided in the sundry civil bill, of which sum it is asked that not exceeding \$1,500 may be used as hitherto, in defraying the expense of the return of patients to their friends.

For general repairs and improvements \$15,000 is asked. This sum is needed to renew from time to time what is worn out, to introduce whatever new appliances experience has shown to be desirable in the care and treatment of the insane and for the daily repairs that are necessary to keep this vast extent of floors and ceilings and walls in a sound and sanitary condition, thus preserving them from deterioration and decay.

Under the head of special repairs and improvements \$2,000 is asked to place at the lower entrance a cottage to be used as a porter's lodge. This is necessary to the proper custody of the place. The amount asked will build a small but tasteful cottage of brick sufficient for the purpose indicated and in keeping with the surroundings.

The statistics of the hospital for the last ten years show that it is necessary each year to provide additional accommodations for fifty patients. The hospital pavilion for the sick, now rapidly progressing towards completion, will furnish, within the present fiscal year, accommodations for fifty of the sick and paralytic class, which will give a degree of relief to our crowded wards that the same amount of provision could afford in no other way. It is apparent, however, as the work progresses, that an adjoining infirmary wing for the feeble ones and the convalescents risen from their hospital beds, but still too infirm to return to the common wards, a wing, with broad piazzas open to the sunshine and air, is especially needed in connection with the hospital pavilion; and since it is imperative to provide fifty additional beds somewhere it is good economy to make that provision where in the present as well as in the future development of the institution it will do the most good. A connection, by an underground arched way, with the main building is indispensable for convenience in conveying material and inmates to and from the infirmary group as well as for efficient supervision of the whole; \$36,000 is asked to complete, for fifty beds, this remaining wing of the pavilion, together with the necessary connections with the hospital.

For completing the changes in the heating apparatus of the old building, appropriation for one wing of which has been made in the present year, \$8,000 will be needed. This includes changes in boiler-house and a new smoke-stack for the additional boilers required.

The sum of \$5,000 is asked for extension of the kitchen, with the furnishing of the same. When the appropriation for a detached kitchen was made in 1882 the hospital contained 942 inmates, and it was a question if the projected new kitchen was not extravagantly large. Now, with the number of patients already exceeding 1,400, the necessity for extension is apparent. The contemplated change, which it is thought can be made for the estimate, will give ample cooking accommodations for 2,000 persons, a number beyond which it is hoped the hospital will never be called on to provide.

The carpenter and machine shop, built in 1856, upon ground that did not afford a sure foundation, has been in almost daily use ever since, and with the constant jar of the machinery and the gradual settling of the walls, cracks have appeared in the brick-work which are visibly widening, making it unsafe to introduce any additional machinery, and necessitating its being taken down and rebuilt on a firm foundation and an enlarged plan better suited to the present wants of the hospital. Four thousand dollars will be needed for this purpose.

For the purchase of additional agricultural land, \$10,000. This hospital, with 1,400 patients, has barely 200 acres of land available for farming, gardening, and grazing purposes. The remainder is occupied with lawns and groves and sites of buildings devoted to the care of the insane, together with a considerable portion in wooded ravines whose cultivation is out of the question, but which are the charm of the grounds, affording secluded and delightful walks for the inmates. A great majority of the patients belong to the chronic class, for whom the best treatment is work about the grounds at farming or gardening. With sufficient arable land of good quality there is no reason why all vegetables consumed by the inmates, except rice, should not be produced on the hospital farm, and a considerable part of the labor of cultivation be that of the insane. Idle men, sane or insane, are seldom happy; those who have steady occupation are generally content. All alienists are agreed on the importance of keeping the insane occupied, and that farm labor is the best employment for a majority of the male population of an asylum. All authorities also agree that hospital grounds should be of an extent of 1 acre of land for each inmate. The Government Hospital has 1,400 inmates and 400 acres. When it is remembered that the herd numbers more than 100 milch cows and a proportional number of young cattle, the pressing need of more territory for pasturage and grass lands is apparent. It is not essential that land for this purpose should be adjacent to the hospital buildings. Outlying fields that may still be purchased at the price of agricultural land will do very well, but it is important that these be secured at once before the advance in all real estate in the vicinity of Washington leaves nothing but house lots available for pasturage. Ten thousand dollars ought still to secure a good extent of agricultural land within easy access to the hospital.

The vacancy in the night medical service resulting from the resignation of Dr. Kenney has been acceptably filled by the appointment of Dr. Charles H. Latimer, of Maryland, a young man who brings the record of some years of successful practice and the highest testimonials of character to this responsible work. The advantage of a night medical service in a large institution like ours is very apparent, and we are surprised that such service is not more generally adopted. Dr. Black-

burn continues to devote his time to pathological research, a work that is coming more and more to be recognized as a necessity in our American hospitals, and is beginning to receive something of the attention which it deserves from the officers in charge. Dr. Blackburn's summary of his studies appears in a supplement to this report. Also the report of Dr. Calver, dentist, containing a résumé of the important work done in his department, in caring for the teeth of the insane. The enlarged experience of the past year in this direction confirms the Board in their belief in the wisdom of this expenditure. Dr. Samuel R. Means, of Washington, has been doing useful work in careful clinical observations among the male patients, a field in which there is still much to be learned. The other members of the staff, for many years unchanged, have by faithful and intelligent labor, in fields grown familiar to them, done much to contribute to the successful results of the year.

To friends who have aided us in our concerts and dramatic entertainments, also with gifts of flowers, magazines, and books for the inmates, as well as pictures for our wards, our thanks are tendered. Such gifts are always acceptable, and books and magazines thus received find many to peruse their pages in our wards. Many persons after reading their magazine or summer story throw it aside and never think of it again. It would be better to notify the superintendent and let the hospital wagon call for them.

The work of the hospital grows with each year, bringing no common responsibility to those who bear it. It is not a light service, this caring for a township of the insane. But it is for us to make it worthy as a nation's charity, and for Congress by a wise liberality in providing for the every need of these afflicted ones to make our burdens light.

We are, very respectfully, your obedient servants,

J. M. TONER,
President.

W. W. GODDING,
Superintendent.

Hon. JOHN W. NOBLE,
Secretary of the Interior.

GOVERNMENT HOSPITAL FOR THE INSANE,
Washington, D. C., August 16, 1889.

SIR: In accordance with the act of Congress, approved June 4, 1880, requiring the Superintendent of the Government Hospital for the Insane to make a report to Congress annually of the detailed expenditures of the hospital for the preceding fiscal year, I have the honor to submit the following statement.

I am, sir, very respectfully, your obedient servant,

W. W. GODDING,
Superintendent.

Hon. JOHN W. NOBLE,
Secretary of the Interior.

Supplementary to June 30, 1888.

On hand, deficiency	\$2, 251. 61
EXPENDITURES.	
Live stock	\$650. 00
Furniture fixtures, etc	766. 89
Utensils, crockery, etc	499. 00
Implements	325. 00
Total	2, 240. 89
Disallowied .....	. 78
Covered into United States Treasury on deficiency	9. 94
	2, 251. 61

Detailed statement of receipts and expenditures for the fiscal year ending June 30, 1889.

	RECEIPTS.
Appropriation for support	\$201, 315. 00
Appropriation for District of Columbia	79, 185. 00
Appropriation for buildings and grounds	42, 700. 00
Appropriation for deficiency	11, 000. 00
On hand, buildings and grounds	23, 611. 98
Miscellaneous receipts	22, 366. 90
Total	380, 178. 88

	EXPENDITURES.
Subsistence :	
Flour, meal, and crackers	15, 251. 55
Ice	3, 888. 92
Butter, cheese, and eggs	17, 596. 29
Fresh meat	23, 300. 06
Salt and smoked meats	12, 518. 22
Fish and poultry	6, 489. 84
Tea and coffee	8, 330. 69
Sugar and molasses	8, 525. 63
Lard	959. 22
Fruits and vegetables	6, 926. 62
Other groceries	9, 147. 53
	112, 934. 57
House furnishing, fuel, lights, etc. :	
Furniture, fixtures, etc	3, 526. 37
Bedding	8, 220. 05
Table and towel linen	857. 02
Utensils, crockery, etc	2, 215. 93
Kitchen fittings	194. 28
Laundry supplies	3, 142. 91
Carpets	463. 52
Hard coal	2, 051. 45
Soft coal	9, 953. 71
Lights, oils, etc	1, 589. 78
Making brooms	179. 11
Wood	421. 29
	32, 815. 42
Dry goods and clothing, books, stationery, and miscellaneous :	
Boots, shoes, and slippers	3, 009. 32
New clothing	1, 348. 86
Clothing material	7, 221. 18
Hats	342. 75
Notions	991. 18
Books and periodicals	610. 00
Stationery and postage	708. 38
Freight and hauling	314. 30
Incidental work, etc	143. 86
Advertising	48. 85
Electrical instruments	148. 95
Photographic instruments, etc	38. 57
	14, 926. 20

Medical supplies, expended for amusement of patients, etc.:

Drugs, medicines, etc.	\$1, 961. 87
Aleoholic stimulants	1, 121. 53
Instruments, etc.	134. 14
Returning eloped patients	177. 20
Amusement of patients	1, 450. 64
Sending to their homes	246. 06
Refunded board money	2. 00
Pathological supplies	208. 25
Dental supplies	53. 92
	—————
	\$5, 355. 61

Farm, garden, and stable:

Feed	8, 892. 32
Implements, horseshoes, etc	884. 34
Plants and seeds	574. 18
Manures	591. 39
Live stock	565. 00
Harness and repairs	683. 19
Vehicles and repairs	2, 092. 35
Hay and straw	2, 249. 66
Incidental expenses	67. 49
	—————
	16, 599. 92

Repairs and improvements:

Lumber, doors, etc	4, 762. 67
Hardware, etc	2, 070. 15
Engineers and plumbers' supplies	6, 234. 03
Paints, oils, glass, etc	1, 831. 93
Roofing	914. 02
Iron work, etc	2, 633. 46
Plastering	273. 15
Sundry small repairs, etc	1, 060. 20
Fire and other apparatus	746. 50
Mason's supplies	3, 782. 70
Buildings	8, 275. 93
	—————
	32, 584. 74

Salaries and wages:

Superintendents, physicians, and general office	16, 902. 26
Ward service	45, 070. 76
Inside domestic department	14, 990. 54
Engineer's department	9, 155. 45
Farm and garden, hauling coal, drivers, etc	24, 306. 61
Mechanics and helpers	19, 262. 47
Making clothing	2. 102. 23
Laundry	5, 224. 71
Sunday service	500. 00
	—————
	137, 515. 03

Covered into United States Treasury on buildings and grounds.

2. 32

On hand, buildings and grounds.

27, 417. 15

On hand, deficiency.

27. 92

Total..... 380, 178. 88

Classified expenditures Government Hospital for the Insane, for fiscal year ending June 30, 1888 (supplementary).

Date.	Furnished by—	On voucher numbered—	Live stock.	Furniture, fixtures, etc.	Utensils, crockery, etc.	Implements.	Grand total.
1888.							
June 30	William Fairweather	881	\$650. 00	.....	.....	.....	.....
30	J. G. Bates	882	.....	\$32. 50	.....	.....	.....
30	Bramhall, Deane & Co	883	.....	.....	\$92. 00	.....	.....
30	Braman, Dow & Co	884	.....	.....	407. 00	.....	.....
30	Rowley & Hermance	885	.....	.....	.....	\$325. 00	.....
30	Wash. B. Williams	886	386. 00	.....	.....	.....	.....
30	Julius Lansburgh	887	.....	348. 39	.....	.....	.....
	Total.....		650. 00	766. 89	499. 00	325. 00	\$2, 240. 89

GOVERNMENT HOSPITAL FOR THE INSANE.

GOVERNMENT HOSPITAL FOR THE INSANE.

Classified expenditures, Government Hospital for the Insane, for fiscal year ending June 30, 1889—Continued.

SUBSISTENCE—Continued.

Date.	Furnished by—	Grand total.							
		Flour, meal, crack- ers, etc.	Butter, cheese, and eggs.	Ice.	Fresh meat.	Salt and smoked meats.	Sugar and molasses.	Fruits and vegetables.	Other groceries.
Dec. 31	Poole & Brooke.....	349		\$70.80					\$104.59
31	Thurber, Whylard & Co.....	352							146.46
31	G. G. Cornwell & Son.....	356	\$405.38						600.07
31	Schafer & Clary.....	364							
31	Andrews & Wade.....	365							
31	Great Falls Ice Company.....	366			\$621.89				
31	Willis Worster.....	368							
31	Frank Hume.....	370							
1889.									
Jan. 9	Maria Wormley.....	381							
31	W. R. Smallwood.....	410							
31	James F. Oyster.....	415							
31	Frank Hume.....	426							
31	Browning & Middleton.....	461	75.07						
31	H. L. Strang.....	462							
31	W. M. Galt & Co.....	468	243.50						
31	Bert R. Scannell.....	483							
Feb. 28	McAfee Bros.....	519							
28	James L. Barbour & Son.....	520	25.20						
28	Gambrill Manufacturing Company.....	521	3,041.50						
	James F. Oyster.....	525							
	Thomas O. Varnell.....	526							
	Frank Hume.....	530							
	Rabbitt & Crown.....	531							
	Bert R. Scannell.....	532							
	E. J. Adams & Co.....	535							
	Andrews & Wade.....	538							
	S. K. Winans.....	556							
	A. J. Fouch & Co.....	557							
	Fred. Oefinger.....	558							
	H. D. Kendall.....	559							
	J. A. Chelton.....	566							
	G. W. Randolph.....	567							
Mar. 15	M. B. Cloud.....	574							6,50

Classified expenditures, Government Hospital for the Insane, for fiscal year ending June 30, 1889—Continued.

SUBSISTENCE—Continued.

Date.	Furnished by—	Grand total.										
		On voucher bered— num.	Flour, meal, etc., crack- ers, etc.	Ice.	Butter, cheese, and eggs.	Fresh meat.	Salt and smoked meats.	Tea and coffee.	Sugar and molas- ses.	Lard.	Fruits and vege- tables.	Other groceries.
1889.												
June 29	Bert. R. Scannell.	826			\$1, 545. 16	\$324. 94						
29	Kingsley Bros.	835			\$283. 20							
29	Rider & Addison.	844										\$6. 51
29	Brown Bros.	850										\$39. 75
29	Robert D. Weaver & Brothers.	856				23. 60	955. 77					\$52. 54
29	Thomas O. Varnell.	857										
29	James F. Oyster.	860				764. 25						145. 32
29	Rabbitt & Crown	867										
	Total											
		\$15, 251. 55	\$3, 888. 92	17, 596. 29	23, 300. 06	12, 518. 22	\$8, 525. 63	\$8, 330. 69	\$8, 489. 84	6, 926. 62	9, 147. 53	\$112, 934. 57

GOVERNMENT HOSPITAL FOR THE INSANE.

29

HOUSE FURNISHING, FUEL, LIGHTS, ETC.

GOVERNMENT HOSPITAL FOR THE INSANE.

GOVERNMENT HOSPITAL FOR THE INSANE.

31

		85.00		
31	Woodward & Lothrop	442		
31	Hayward & Hutchinson	448	78.50	66.00
31	M. G. Copeland & Co.	456	42.92	
31	Louis A. Dieter	458	136.00	315.11
31	W. B. Moses & Son	465		24.13
31	M. W. Beveridge	467		
31	Pettit & Dripps	470		
31	S. S. Shedd & Bro.	471	252.10	
31	Ingalls & Kendrick	479	62.15	
31	E. G. Wheeler	482	158.49	
Fob.	A. C. Patterson	497		10.00
8	James W. Blaine	498	15.49	
12	George T. Suit	518	9.60	14.00
28	James L. Barbour & Son	520		
28	George W. Tooker	522		
28	S. S. Shedd & Bro.	536	22.30	
28	W. H. Harrover	539		
11	George T. Suit	552	28.42	
15	James W. Blaine	554	22.27	
16	Paul Hiser & Sons	561		
19	M. Mahoney	569		
20	W. H. Rudd & Son	573		
23	J. Neal Perkins	575		
23	George Suppes	577		
30	B. T. Babbitt	601		
30	George J. Johnson	603		
30	Julian Rosenblatt	604		
30	The Hartford Woven Wire Mattress Co.	608	636.89	
30	J. A. Harwood	611	18.00	
30	Charles H. Nicolai	612		
30	Thomas G. Hood	614	501.03	537.91
30	R. A. Robbins	616	15.96	
30	T. B. Middleton	620		
30	M. Silverberg & Co.	625	50.75	
30	M. W. Beveridge	631	52.35	
30	F. P. May & Co.	632		
30	Julius Lansburgh	655		
30	Pettit & Dripps	657	7.71	
30	W. B. Moses & Son	658	230.19	
30	W. m. Sellers & Co.	664		
30	Wm. Beaman	667	40.90	
27	Union Oil Company	679		
29	James L. Barbour & Son	688		
29	Louis A. Dieter	693		
23	John Early & Co.	705	25.95	
31	Wm. Beaman	738		
31	Lansburgh & Bro	749		
31	George Ryneal, Jr	756	12.83	19.20
		763	373.37	25.16
			6.60	

Classified expenditures—Continued.
 HOUSE FURNISHING, FUEL, LIGHTS, ETC.—Continued.

Date.	Furnished by—	On voucher numbered—										
		Bedding.	Utensils, grocery, etc.	Kitchen fittings.	Laundry supplies.	Carpets.	Hard coal.	Soft coal.	Wood.	Lights, oils, etc.	Making brooms.	Grand total.
1889.												
May 31	S. S. Shedd & Bro.	764	\$30.25									
	J. M. Wheatley	773										
June 29	Charles H. Nicolai	797										
29	John Early & Co.	799										
29	Union Oil Company	800										
29	B. T. Babbitt	801										
29	W. B. Moses & Son	812	9.70									
29	M. W. Beveridge	813										
29	James L. Barbour & Son	820										
29	J. C. Ergood & Co	822										
29	W. H. Harrover	832										
29	M. G. Copeland & Co.	841	4.55									
29	Wilmarth & Edmonston	846										
29	Washington Gas Light Co	853										
29	Lansburgh & Bro.	859										
29	W. B. Moses & Son	236	22.25									
29	Julius Lansburgh	869	36.37									
29	E. G. Wheeler	870										
	Total		3,526.37	\$8,220.05	857.02	2,215.93	194.28	3,142.91	\$2,051.45	463.52	\$179.11	\$32,815.42

DBY GOODS AND CLOTHING, BOOKS, STATIONERY, AND MISCELLANEOUS.

Classified expenditures—Continued.

Date	Furnished by—	On voucher numbered—		New clothing.	Clothing material.	Hats.	Notions.	Books and periodicals.	Stationery and postage.	Freight and hauling.	Incidental work, etc.	Advertising.	Electrical instruments.	Photographic instruments, etc.	Grand total.															
		3	7													44	47	77	86	95	103	127	128	129	131	132	133	139		
1888.		Lea Bros. & Co.....																												
July 17	Samuel Beiber																													
23	A. F. Brooke																													
25	J. Baumgarten & Son																													
26	George W. Knox																													
31	Baltimore & Ohio Express Company																													
31	Adams Express Company																													
31	Chesapeake & Potomac Telephone Co																													
27	Washington Post																													
27	Daily National Republican																													
27	The Evening Star																													
27	Lee Crandall																													
27	The Sunday Herald																													
27	T. G. Morrow																													
27	Washington Post																													
27	The Capital																													
27	Washington Critic																													
Aug. 4	Lamb Knitting Machine Manufacturing Company																													
	R. C. Jones																													
	Adams Express Company																													
	Woodward & Lothrop																													
	George W. Knox																													
	J. Baumgarten & Son																													
Sept. 12	Washington City Post-Office																													
29	Department of the Interior																													
29	Department of the Interior																													
29	Baltimore & Potomac Railroad Co																													
29	Adams Express Company																													
29	George W. Knox																													
29	G. Alder Blumer																													

Classified expenditures—Continued.

Date.	Furnished by—	Grand total.			
		On voucher number—	New clothing.	Boots, shoes, and slippers.	Clothing material.
1888.					
Sept. 29	Thomas G. Hood	147			
29	R. A. Robbins	148			
29	T. G. Morrow	150			
29	Jeanette Blum	162			
29	The Washington Post	163			
29	A. L. Williston	175			
Oct. 5	William B. Pearce	180			
	R. C. Jones	185			
	P. A. Connell	186			
9	S. Oppenheimer & Bro	193			
19	United States Express Company	209			
31	Adams Express Company	215			
31	George W. Knox	216			
31	E. Morrison	224			
31	James J. Chapman	226			
31	Auerbach & Bro	227			
31	J. U. Burket & Co	229			
Nov. 30	George J. Johnson	272			
30	James R. Michael	276			
30	Lansburgh & Bro	279			
30	William Hahn & Co	282	\$77.87	268.86	363.01
30	Woodward & Lothrop	285			
30	Baltimore & Potomac Railroad Co.	288			
30	George W. Knox	289			
30	United States Express Company	290			
30	Adams Express Company	291			
Dec. 4	L. D. Williams	300			
	R. C. Jones	306			
22	J. L. Shaw	326			
26	Augustus Thomas	328			
27	W. H. Moore	330			
			1,108.23		
					158.05

28	United States Express Company	334		5.00
29	T. G. Morrow	336	18.30	
29	The Washington Post	337	28.86	
31	Washington City Post-Office	340	59.00	
31	George W. Knox	341	10.33	
31	Adams Express Company	342	1.60	
31	United States Express Company	343	.95	
31	S. Bensinger	345		
31	Department of the Interior	348		
31	R. A. Robbins	353		
31	Thomas G. Hood	354		
31	Robert Cohen	355		
1889.				
Jan. 3	R. C. Jones	380		
14	George Prender	388		
22	A. C. McKnight	398	8.00	
28	Baltimore and Ohio R. R. Co.	407	5.00	
31	S. Bieber	417		
31	James R. Michael	421		
31	B. Rich & Sons	422		
31	Adams Express Company	427	6.14	
31	George W. Knox	428		
31	Baltimore and Potomac R. R. Co.	429		
31	Lamb Knitting Machine Manufacturing Company	433		
31	J. U. Burket & Co.	440		
31	Woodward & Lothrop	442		
31	William Ballantyne & Son.	446		
31	Meyer Joseph	450		
31	E. G. Davis	451		
31	James J. Chapman	452		
31	Chesapeake & Potomac Tel. Co.	453		
31	E. Morrison	466		
31	Department of the Interior	478		
31	Auerbach & Bro	480		
31	United States Express Company	481		
31	Washington Post	484		
Feb. 20	M. E. Pierce	505		
	R. C. Jones	507		
21	Z. D. Gilman	524		
28	Adams Express Company	527		
28	Baltimore and Potomac R. R. Co.	528		
28	George W. Knox	529		
28	Jeanette Blum	537		
28	Thomas Songster	540		
28	United States Express Company	541		
Mar. 11	S. Sanson	551		
16	Charles S. Cudlip	562		
19	Lewis S. Hayden	568		
28	T. G. Morrow	587		
28	Charles C. Fulton & Co.	588		
30	Washington City Post-Office	595		

Classified expenditures—Continued.

DRY GOODS AND CLOTHING, BOOKS, STATIONERY, AND MISCELLANEOUS—Continued.

June 28	L. J. Shaw	784	6.00
29	Washington City Post-Office	788	42.00
29	Adams Express Company	804	2.10
29	The Washington Post	823	
29	Auerbach & Bro	825	
29	The Capital	830	
29	Wm. Ballantyne & Son	833	
29	E. Morrison	836	
29	James J. Chapman	840	
29	Robert Cohen	843	
29	Jeanette Blum	845	
29	Meyer Joseph	847	
29	T. G. Morrow	851	
29	Saks & Co	855	
29	W. W. Godding, superintendent	873	
	Total	3,009.32	\$1,348.86
		7,221.18	342.75
		991.18	610.00
		708.38	314.30
		\$48.85	148.95
		\$38.57	\$14,926.20

GOVERNMENT HOSPITAL FOR THE INSANE.

Classified expenditures—Continued.

MEDICAL SUPPLIES, EXPENDED FOR AMUSEMENT OF PATIENTS, ETC.

Date.	Furnished by—	Grand total.		
		Alcoholic stimulants.	Instruments, etc.	Returning eloped pa- tients.
July 14	J. D. Butler			\$5.00
16	Thomas Swan			5.00
20	Elmer Howard			5.00
21	Nora Barrett			4.40
31	G. G. Cornwell & Son	\$46.08		
9	Charles Hopkins			
15	John R. Willis			
17	Timothy O'Malley			
Aug. 5	G. F. Fredrick			
10	C. Kades			
27	H. Wagner			
31	Jacob Beacham			
31	Jas. L. Barbour & Son	74	\$225.50	308.51
31	G. G. Cornwell & Son	76		75.37
31	Frank Hume	85		
28	L. P. Weedon	88		24.75
Sept. 28	J. C. Smith	113		
29	Robert L. Davis	114		
29	George W. Henson	118		
29	Jas. W. Queen & Co.	119		
29	Thurber, Whyland & Co.	140		
29	E. F. Houghton & Co.	143		
29	Price Manufacturing Company	144	36.00	153.33
29	E. E. White	145	91.31	24.00
29	Browning & Middleton	157		7.00
29	Daniel Loughran	161		
29	Melville Lindsay	165		
29	S. E. Ware	166	57.00	
29	Z. D. Gilman	167	159.53	
29	A. C. Patterson	168	154.49	
29	F. G. Perry	169		
Oct. 10	J. McMahon	177		
		187		
				5.00
				41.61
				44.00
				21.50

GOVERNMENT HOSPITAL FOR THE INSANE.

11	Charles McKenzie	5.00
21	Leonard Anderson	5.00
29	F. C. Woods	5.00
31	H. Hoff	20.50
Nov. 15	Stephen Ballard	\$24.00
20	H. Wagner	10.50
24	McDevitt & Flinder	32.20
26	William Prue	5.00
28	James Ayers	5.00
30	H. Wagner	3.50
20	Samuel B. Cox	5.00
20	Percy L. Nott	14.15
30	William Mooney	3.00
Dec. 3	R. H. Owens	5.00
11	J. F. Rives	5.00
18	W. C. Downey	\$2.00
21	Hamilton Bros	10.00
28	E. Shoemaker	1.00
31	Parke, Davis & Co	37.04
31	Price Manufacturing Company	113.42
31	Thurber, Whylund & Co	144.74
31	G. G. Cornwell & Son	157.60
31	George C. Frye	17.50
31	Humane Restraint Company	32.00
5	Thomas Stephens	17.60
19	H. B. Rabiana	15.00
20	James Hannan	23.00
26	John Regan	6.50
1889.	Dougherty & Allen	10.00
Jan. 11	Grant Wilkerson	5.00
14	Robert Sweeney	5.00
14	R. C. Woodcock	5.00
31	Helen Stuart Richings	15.00
25	R. H. Owens	5.00
27	A. C. Patterson, chief clerk	34.78
31	John H. Clubb	5.00
31	Whitall, Tatum & Co	5.00
31	Gideon Sibley	12.75
31	Stevenson Bro. & Co	9.43
31	Charles Fischer	262.74
31	Melville Lindsay	51.00
31	E. J. Lewis	1.42
31	Daniel Loughran	12.00
31	S. F. Ware	\$3.00
31	W. H. Morrison	12.00
31	C. Howard	5.00
4	H. Wagner	10.50
6	P. Plant	15.00
22	James L. Barbour & Son	12.00
28	Z. D. Gilman	46.25
28	Frank Hume	12.25

Classified expenditures—Continued.

MEDICAL SUPPLIES, EXPENDED FOR AMUSEMENT OF PATIENTS, ETC.—Continued.

Date.	Furnished by—	Grand total.	
		Detail supplies.	Pathological supplies.
1889.			
Mar. 2	G. H. Pray.....		
7	Harry B. Sweeney.....		
	550.....	\$5.00	
20	John W. Hayes.....		
	571.....	5.00	
25	Henry Eberbach		
	578.....		12.85
28	Henry Matthews.....		
	586.....	5.00	
29	S. C. Elliott.....		
	591.....		4.00
30	A. C. Patterson, chief clerk.....		
	594.....		36.05
30	G. G. Cornwell & Son.....		
	599.....		
30	T. H. McAllister.....		
	605.....		
30	James W. Queen & Co		
	609.....		.90
30	Price Manufacturing Company		
	610.....		
30	Parke, Davis & Co		
	613.....		
30	N. W. Burchell		
	624.....		
30	M. Silverberg & Co		
	625.....		
30	S. F. Ware		
	630.....		
30	George J. Mueller		
	639.....		
30	Edward F. Droop		
	649.....		
30	Melville Lindsay		
	659.....		
Apr. 4	John F. Cox		
	676.....		
24	L. G. Spencer		
	685.....		
19	J. C. Simpson		
	718.....		
8	Oscar King		
	725.....		
9	James Ayres		
	727.....		
9	W. D. Barry		
	728.....		
24	James Johnson		
	739.....		
31	Gideon Sibley		
	753.....		
31	William M. Galt & Co		
	759.....		
31	G. G. Cornwell & Son		
	765.....		
14	George A. Price		
	771.....		
27	A. H. Witmer		
	772.....		
June 7	F. D. Cross		
	777.....		
15	Samuel West		
	779.....		

\$5.50

13.20

13.75

5.00

5.00

5.00

5.00

5.00

5.00

5.00

GOVERNMENT HOSPITAL FOR THE INSANE.

Classified expenditures—Continued.

FARM, GARDEN, AND STABLE.

GOVERNMENT HOSPITAL FOR THE INSANE.

43

1889.		9. 00	100. 00	511. 30	17. 81
Jan.	23	J. H. Mitchell.....	424	511. 30	17. 81
31	John Simms.....	425	2. 00		
31	John McDermott & Bro	426			
31	T. B. Middleton.....	438			
31	Frances M. Joyce.....	445			
31	H. P. Gilbert.....	455			
31	R. H. Owens.....	459			
31	W. M. Galt & Co.....	468			
31	John A. Baker.....	469	747. 74	19. 90	
31	Lutz & Bro.....	472	49. 23		
31	E. G. Wheeler.....	482	127. 00		
31	James Rankin.....	485			
Feb.	20	George F. Pyles.....	504	5. 00	
21	R. Douglas & Sons.....	508	985. 65		
28	James L. Barbour & Sons.....	520	211. 23		
28	Myers & Loving.....	533	16. 35		
Mar.	26	Thomas W. McKnew.....	534		
30	Adams Express Company.....	596			
30	William Dixon.....	600			
30	Peter Henderson & Co.....	615			
30	P. H. Heiskell, Jr., & Co.....	623	16. 10		
30	Myers & Loving.....	631	174. 90		
30	Alison Sailor, Jr.	633			
30	W. M. Galt & Co.....	634	459. 00		
30	R. H. Owens.....	647	11. 50		
30	John A. Baker.....	653	300. 17		
30	John McDermott & Bro.....	665			
Apr.	18	Thomas Dowling.....	681	6. 71	
29	R. H. Owens.....	592	6. 25		
29	James L. Barbour & Son.....	693	1, 109. 10		
29	Herbert A. Jones.....	694			
29	Willis S. Clark.....	695	26. 80		
29	Thomas Gray & Son.....	697	18. 80		
29	George Ryneal, Jr.....	700	22. 00		
29	Lutz & Bro.....	701	10. 00		
29	Myers & Loving.....	703			
29	John Kraft.....	706	39. 07	1. 95	
29	Sidney Tuttle & Co.....	707	129. 29		
31	J. H. Mitchell.....	713	2. 00	12. 50	
31	William M. Galt & Co.....	741			
31	John A. Baker.....	748	5. 50		
June	29	W. M. Galt & Co.....	759	388. 50	
29	James L. Barbour & Son.....	806	18. 71	24. 05	
29	Myers & Loving.....	814	171. 15		
29	John McDermott & Bro.....	820	601. 30		
29	Lewis Hopfenmayer.....	824	137. 80		
29	Lutz & Bro.....	829			
29	P. H. Heiskell, Jr., & Co.....	831			
		837			20. 00
		839			18. 75
					30. 00

GOVERNMENT HOSPITAL FOR THE INSANE.

Classified expenditures—Continued.

FARM, GARDEN, AND STABLE—Continued.

Classified expenditures—Continued.

REPAIRS AND IMPROVEMENTS.

Date.	Furnished by—	Grand total.		
		Buildings.	Masons' supplies.	Fire and other apparatus.
1888.				
July 23	William H. Richards & Co			
31	J. H. Grant			
31	John T. Webster			
31	L. H. Schneider & Son			
31	Thomas Gray & Son			
31	Daniel Shanahan			
Aug. 31	George A. Sheehan			
31	Thomas W. Smith			
25	James H. Grant			
31	Thomas Gray & Son			
31	Samuel Emery			
31	George A. Sheehan			
31	Thomas Gray & Son			
31	Willett & Libbey			
31	Daniel Shanahan			
31	Wheatley Bros			
Sept. 29	The Gutta Percha and Rubber Manufacturing Company			
	Price Manufacturing Company			
29	Robert Leitch & Sons			
29	Thomas Gray & Son			
29	Charles Becker			
28	A. O. Brummel			
29	Rider & Addison			
29	W. W. Tupper & Co			
29	Otis Bros. & Co			
29	Robert Leitch & Sons			
29	J. H. Grant			
29	George H. Baldwin			
29	Thomas Gray & Son			
29	William H. Richards & Co			
29	James Quarles			
	On voucher number—			
	Lumber, doors, etc.			
	Hardware, etc.			
	Enginmeers and plumbers' supplies.			
	Paints, oils, glass, etc.			
	Iron work, etc.			
	Plastering.			
	Sundry small repairs, etc.			
	Fire and other apparatus.			
	Masons' supplies.			
	Buildings.			
	Grand total.			

GOVERNMENT HOSPITAL FOR THE INSANE.

Classified expenditures—Continued.

REPAIRS AND IMPROVEMENTS—Continued.

Date.	Furnished by—	On voucher numbered—			
		Linseed, doors, etc.	Hardware, etc.	Paints, oils, glass, etc.	Roofing.
1888. Sept. 29	Harrison Pleasant	188			
	The Clark Manufacturing Company	190			
29	Morris Tasker & Co	191		\$88.35	
29	Edward L. Dent	192			
29	Mobley & Scheuerman	193			
29	Robert Leitch & Sons	195		45.36	
29	John Miller	197			
29	Robert Leitch & Sons	198		662.29	
29	John Early & Co	206			
31	George Rynearl, Jr	223			
31	Robert Leitch & Sons	223			
31	O. L. Wolfenstein & Co	199			
31	T. B. Cross, Jr	200			
31	W. M. Whyte & Bro	201			
31	J. H. Grant	202			
31	C. Fen Keys	203			
31	Robert Leitch & Sons	204			
31	J. F. Manning	206			
17	George Mathieson	11			
31	William H. Richards & Co	12			
31	Willet & Libbey	13			
31	C. Fen Keys	14			
31	Robt & Leitch & Sons	15			
31	Daniel Shanahan	254			
Nov. 20	Edward L. Dent	17			
	Daniel Shanahan	18			
20	William S. Cross	19		607.52	
28	Chas. White & Co.	20			
30	A. O. Brumell	21			
30	Chas. J. Fanning	207			
30	Chas. White & Co.	208			
30	Thos. Gray & Son	209			
					\$90.90

GOVERNMENT HOSPITAL FOR THE INSANE.

47

				675.93
30	J. H. Grant			
	Chas. White & Co			
Dec.	Robert Leitch & Sons			
31	S. Bensinger			
	Thomas R. Coombe			
27	J. T. Webster			
23	William H. Richards			
26	Robert Leitch & Sons			
27	Thomas W. Smith			
28	Wheatley Bros			
31	J. Edward Libbey			
31	James Hughes			
31	Charles J. Fanning			
28	Heise, Bruns & Co			
28	1889.			
Jan.	Daniel Shanahan			
31	J. M. Wheatley			
31	Charles Becker			
31	Morris Tasker & Co			
31	Francis Mürler			
31	George Rynear, Jr			
31	George A. Shehan			
31	L. H. Schneider's Son			
31	Willet & Libbey			
31	R. Leitch & Sons			
31	F. P. May & Co			
31	Thomas Somerville & Sons			
31	E. G. Wheeler			
25	George B. Clark			
31	W. H. Richards & Co			
31	Otis Bros. & Co			
31	Heise, Bruns & Co			
31	William D. Campbell & Co			
31	J. T. Walker's Son			
31	L. H. Schneider's Son			
31	Willet & Libbey			
31	R. Leitch & Sons			
31	Thomas Somerville & Sons			
31	E. G. Wheeler			
22	Edward L. Dent			
31	The Clark Manufacturing Company			
31	L. H. Schneider's Son			
31	T. B. Middleton			
28	T. B. Cross, Jr			
28	Thomas Gray & Son			
28	George Rynear, Jr			
Mar.	Robert Leitch & Sons			
18	Daniel Shanahan			
30	Wheatley Bros			
30	Dufur & Co			
30	Otis Bros. & Co			
	C. E. Bigelow			
	22.95			
	9.30			
	619			
210		15.00		
212		144.70		
329		109.20		
345		1,161.00		
363		25.00		
23	113.00			
24		104.18		
25		182.20		
26		658.84		
27		306.92		
28		167.98		
29		268.30		
213		236.67		
214		21.00		
414		23.66		
416		288.00		
423		20.00		
436		24.92		
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classified expenditures—Continued.

REPAIRS AND IMPROVEMENTS—Continued.

29	Geo. B. Clark	54	55	53.19	53.19	6.50
29	L. H. Schneider's Son	55	56	92.98	92.98	
29	Pettit & Dripps	56	78.69		\$7.24	
29	Wheatley Bros	57				
29	J. T. Walker Sons	58		8.86		
29	Robert Leitch & Sons	59		73.18	21.60	
29	Thos. Somerville & Sons	60				
29	Chas. J. Fanning	61				
29	John T. Webster	62				
29	Pettit & Dripps	229				
29	Robert Leitch & Sons	230		799.61		
29	Thomas Somerville & Sons	231		1,000.81		
29	John T. Webster	232				
29	John T. Webster	233				
29	John T. Webster	234				
29	John T. Webster	235		19.85		
29	E. G. Wheeler	64				
29	Wm. Sellers & Co.	65				
	Total			4,762.67	2,070.15	6,234.03
					914.02	1,831.93
					2,633.46	273.15
					746.50	1,060.20
					3,782.70	743.15
					3,782.70	743.15
					\$8,275.93	\$32,584.74

Classified expenditures—Continued.

SALARIES AND WAGES.

Date.	Furnished by—	Grand total.	
		Sunday service.	Laundry.
	Making clothing.		
	Mechanics and helpers.		
	Farm and garden, haul- ing coal, drivers, etc.		
	Engineer's department.		
	Inside domestic depart- ment.		
	Ward service.		
On voucher numbered—	Supernumerary, physi- cians, and general of- fee.		
1888.			
July 20	Ellen Bowling		
	Pasquale Serpico	5	
	H. M. McAndrews	8	
	M. Wilkinson	10	
	Jane Beavan	11	
	O. A. Moore	21	
	Pay-roll—support	22	
	do	36	\$1, 341. 47
	do	37	\$2, 640. 20
	do	38	952. 95
	do	39	\$767. 00
	Pay-roll—buildings and grounds	460. 84	
	do	163	\$585. 83
	do	168	\$1, 016. 00
	L. M. Cross	43	1, 048. 43
	Bessie Stuart	51	\$601. 00
	Etta Harrison	54	918. 61
	O. A. Moore	58	689. 31
	Lizzie Langley	59	
	M. Wilkerson	71	12. 00
	Jane Beavan	73	18. 00
	L. M. Cross	75	20. 00
	Pay-roll—support	91	9. 00
	do	92	13. 50
	do	93	13. 50
	do	94	9. 00
	Pay-roll—buildings and grounds	95	15. 71
	do	176	15. 71
	Ellen Bowling	99	
	K. R. Barclay	100	
	H. M. McAndrews	101	
	S. A. Wood	102	
	Jane Jardine	105	
	Maggie O'Leary	106	
Sept.			
3			
4			
5			
12			
15			
22			

GOVERNMENT HOSPITAL FOR THE INSANE.

27	Jane Beavan	111	13.50
28	Lizzie Langley	112	18.00
28	Maggie Wilkinson	115	8.50
28	George Mathieson	116	
29	William Marshall	117	74.00
29	O. A. Moore	120	11.20
29	G. H. Baldwin	121	
29	Frank Blaine	122	156.90
29	W. D. Pyles	123	67.49
29	Harrison Pleasant	124	73.08
29	James Quarles	125	76.70
29	Timothy Smith	126	72.33
29	George W. Rowland	130	85.85
29	T. B. Middleton	135	116.22
29	Pay-roll—support	171	69.56
29	do	172	2,473.06
29	do	173	1,057.02
29	do	174	756.50
29	Pay-roll—buildings and grounds	10	512.00
29	do	189	
29	S. A. Wood	194	
29	Etta Harrison	181	
29	L. M. Cross	182	
3	Hellen E. Liston	183	
5	A. Watthen	188	
6	Lizzie Langley	190	
11	S. E. Hilton	191	
12	Jane Beavan	192	
13	Mrs. O. A. Moore	200	
23	Ellen Bowling	202	
27	Cecelia Griffith	203	
29	K. R. Barclay	205	
31	Pay-roll—support	234	933.15
31	do	235	3,061.14
31	do	236	1,064.55
31	Pay-roll—buildings and grounds	237	750.50
31	do	205	483.85
31	H. M. McAndrews	16	
31	M. V. Powell	241	
31	L. M. Cross	242	
31	Pasquale Serpico	243	
7	Lizzie Langley	244	
8	S. E. Hilton	245	
10	Etta Harrison	246	
13	O. A. Moore	247	
15	Maggie Wilkinson	248	
16	L. A. McKenney	250	
16	Mary McMahon	251	
17	Maggie O'Leary	252	
21	Catharine Krieg	256	
			8.50

Classified expenditures—Continued.
SAVABLES AND WAGES—Continued.

Date.	Furnished by—	Grand total.	
		Sunday service.	Ward service.
1888.			
Nov. 27	Fannie E. Bonomi.	\$8.50	
28	Ellen Bowling	13.50	
28	K. R. Barclay	12.75	
30	Jane Beavan.	15.75	
30	M. McInturf.	8.16	
30	M. A. Dodge.	8.50	
30	S. A. Wood	37.33	
	Pay-roll—support.		
30	\$1,471.15	\$2,506.49	
30	293	1,172.86	
30	294	499.97	
30	295		
30	22		
	Pay-roll—buildings and grounds		
30	do	211	
30	do	299	
30	do	301	
30	do	302	
	Pay-roll—buildings and grounds		
30	Nellie G. Quaid		
4	Lizzie Langley		
4	F. M. Blaine.		
4	L. M. Cross		
5	M. V. Powell.		
7	Mrs. O. A. Moore.		
8	Bessie Stuart.		
15	Emma Green		
19	Eliza Goodwin		
20	Jane Beavan		
20	A. Wathen		
20	Fannie S. Tippett.		
21	M. A. Dodge.		
21	E. H. Stanton		
21	Belle Dodge.		
21	S. M. Hardy		
21	H. M. McAndrews		
21	Etta Harrison		
21	Mary Perkins		
22	Catharine Fry		
	On voucher numbered—		
	Supervintendant, physical gians, and general of- fee.		
	Inside domestic depart- ment.		
	Engineer's department.		
	Farm and garden, haul- ing coal, drivers, etc.		
	Mechanics and helpers.		
	Making clothes.		
	Laundry.		
	Sunday service.		
	Grand total.		

GOVERNMENT HOSPITAL FOR THE INSANE.

31	M. McMahon	339	1,493.20	2,513.52	757.00	1,307.52	1,350.85	1,103.79
31	Pay-roll—support.	371						
31	do	372						
31	do	373						
31	do	374						
31	Pay-roll—buildings and grounds.	30						
5.12								
1889.								
Jan. 3	Ada Luckett	379						
10	S. A. Wood	382						
11	Lizzie Langley	383						
12	Ellen Bowling	385						
12	Catharine Smith	386						
17	L. M. Cross	391						
17	Mary Soper	392						
18	E. H. Stanton	393						
19	O. A. Moore	395						
21	K. R. Barclay	396						
22	C. V. Watts	397						
24	Jane Beavan	401						
28	Etta Harrison	406						
31	Jane Jardine	409						
31	H. M. McAndrews	411						
31	Fannie E. Bonini	412						
31	Emma Green	418						
31	Helen E. Liston	419						
31	K. R. Barclay	430						
31	Pay-roll—support.							
31	do	486	1,520.65	2,553.97	772.00	1,338.00	1,295.75	1,037.75
31	do	487						
31	do	488						
31	do	489						
31	Pay-roll—buildings and grounds							
31	S. A. Wood	490						
31	Ada Luckett	491						
31	Mary Perkins	493						
31	Eliza Goodwin	494						
6	Ellen Bowling	495						
12	L. M. Cross	499						
16	S. E. Hilton	500						
18	Fannie S. Tippett	501						
19	Mary F. Cator	502						
19	M. McInturf	503						
21	Lizzie Langley	506						
23	Jane Beavan	510						
23	Mary Hall	511						
23	Maggie O'Leary	512						
23	S. M. Hardy	513						
27	Eliza Goodwin	514						
28	M. A. Hazell	515						
28	M. A. Dodge	516						
28	Etta Harrison	517						
28	Pay-roll—support.	542	1,453.65	2,625.21	1,160.61	767.00		

Classified expenditures—Continued.

SALARIES AND WAGES—Continued.

Date.	Furnished by—	Grand total.	
		Sunday service.	Launder.
1889.			
Feb. 28	Pay-roll—support.....		
28	do.....		
28	Pay-roll—buildings and grounds.....		
Mar. 2	A. Wathen.....		
2	Ada Luckett.....		
6	S. A. Wood.....		
12	Ellen Bowling.....		
15	Laura L. Dunham.....		
16	O. A. Moore.....		
18	Emma Green.....		
18	E. H. Stanton.....		
20	C. V. Watts.....		
20	Lizzie Langley.....		
23	Jane Beavan.....		
25	Fannie S. Tippett.....		
25	Catharine Smith.....		
26	M. McInturf.....		
27	K. R. Barclay.....		
27	Maggie O'Leary.....		
27	Catharine Krieg.....		
28	Mary Perkins.....		
29	H. M. McAndrews.....		
30	L. M. Cross.....		
30	S. A. Wood.....		
30	Pay-roll—support.....		
30	do.....		
30	do.....		
30	Pay-roll—buildings and grounds.....		
30	do.....		
30	Etta Harrison.....		
April 4	Ellen Bowling.....		

GOVERNMENT HOSPITAL FOR THE INSANE.

Itemized receipts.

1888.			
July	2. Cash received for board of S. C. Borrows	\$130.00	
	2. Cash received for board and special attendance on Edw. Burchell	211.00	
	2. Cash received for board of E. A. Bradly	20.00	
	2. Cash received for board of Christian Potter	65.00	
	6. Cash received for board of U. S. Home patients	920.00	
	6. Cash received for board of S. R. Cox	65.00	
	6. Cash received for board of Jennie M. Lowell	91.00	
	9. Cash received for board of W. H. Zepp	182.00	
	10. Cash received for board of M. A. Gilleland	65.00	
	11. Cash received special attendance on Rollin Perkins	75.00	
	11. Cash received for board of Martha Herman	20.00	
	16. Cash received for board of John T. Moncrief	65.00	
	17. Cash received for board of C. K. Yancey	91.00	
	20. Cash received for board of Bryan Hall	65.00	
	20. Cash received for board of Herman Buchlers	130.00	
	21. Cash received for board of Marine Hospital Service	946.29	
	24. Cash received for board of M. E. Wadsworth	28.00	
	24. Cash received for board of John Weidman	91.00	
	31. Cash received for board of Chu-e-rah-rah-he-kah	91.00	
	31. Cash received for sale of stock, etc.	67.84	
Aug.	2. Cash received for board of E. A. Bradley	20.00	
	2. Cash received for board of A. Woodward	50.00	
	3. Cash received for board of Emily B. Wadsworth	28.00	
	4. Cash received for board of Julius Solger	20.00	
	15. Cash received for board of I. A. Van Brunt	20.00	
	15. Cash received for board of S. H. Johnson	7.00	
	20. Cash received for board of John C. Rives	30.00	
	27. Cash received for board of M. Herman	20.00	
	28. Cash received for board of E. A. Bradley	20.00	
	31. Cash received for sale of stock, etc.,	77.65	
Sept.	3. Cash received for board of F. W. Yager	91.00	
	6. Cash received for board of William H. Hindes	65.00	
	15. Cash received for board of William H. Hindes	65.00	
	19. Cash received for board of John C. Rives	30.00	
	22. Cash received for board of Martha Herman	20.00	
	25. Cash received for board of E. A. Bradley	20.00	
	28. Cash received for board of E. B. Wadsworth	28.00	
	28. Cash received for board of Adolph Berger	130.00	
	28. Cash received for board of Jennie M. Lowell	91.00	
	29. Cash received for board and special attendance on Edw. Burchell	211.00	
	29. Cash received for board of Lucy B. Newell	31.00	
	29. Cash received for board of S. R. Cox	65.00	
	29. Cash received for sale of stock, etc.	85.10	
Oct.	1. Cash received for board of S. C. Borrows	130.00	
	6. Cash received for board of Soldiers' Home patients	907.86	
	6. Cash received for board of M. A. Gilleland	65.00	
	6. Cash received for board and special attendance on Rollin Perkins	75.00	
	6. Cash received for board of Bryan Hall	65.00	
	6. Cash received for board of H. Beuchlers	130.00	
	10. Cash received for board of Amon Woodward	20.00	
	12. Cash received for board of Warren Webster	364.00	
	12. Cash received for board of Christian Potter	65.00	
	12. Cash received for board of M. E. Cazenove	156.00	
	12. Cash received for board of Marine Hospital Service	969.43	
	12. Cash received for board of Martha Herman	20.00	
	16. Cash received for board of C. K. Yancey	91.00	
	20. Cash received for board of E. B. Wadsworth	28.00	
	23. Cash received for board of E. A. Bradley	20.00	
	23. Cash received for board of John Weidman	91.00	
	25. Cash received for board of J. C. Rives	30.00	
	25. Cash received for board of J. T. Moncrief	3.57	
	31. Cash received for board of Frank B. Hayes	65.00	
	31. Cash received for sale of stock, etc.	26.60	
Nov.	9. Cash received for board of Amon Woodward	20.00	
	18. Cash received for board of Martha Herman	20.00	
	22. Cash received for board of Emily B. Wadsworth	28.00	
	22. Cash received for board of E. A. Bradley	20.00	
	27. Cash received for board of Chu-e-rah-rah-he-kah	91.00	

1888.

Nov. 30.	Cash received for sale of stock, etc.	\$350.36
Dec. 6.	Cash received for board of William H. Hindes	65.00
7.	Cash received for board of Amon Woodward	32.00
8.	Cash received for board of Elizabeth Howell	28.57
19.	Cash received for board of M. E. Bradley	20.00
29.	Cash received for board of Emily B. Wadsworth	28.00
29.	Cash received for board of Jennie M. Lowell	91.00
29.	Cash received for board of Adolph Berger	65.00
31.	Cash received for board and special attendance on Edw. Burchell	211.00
31.	Cash received for board of Martha Herman	20.00
31.	Cash received for board of Sarah Cox	65.00
31.	Cash received for board of W. H. Zepp	273.00
31.	Cash received for board of M. A. Gilleland	65.00
31.	Cash received for board of Soldiers' home patients	829.29
31.	Cash received for special attendance on Rollin Perkins	75.00
31.	Cash received for board of H. Beuchlers	130.00
31.	Cash received for board of Marine Hospital Service	12.50
31.	Cash received for board of M. E. Cazenove	156.00
31.	Cash received for board of Christian Potter	65.00
31.	Cash received for sale of stock, etc	103.72

1889.

Jany. 9.	Cash received for board of Bryan Hall	65.00
15.	Cash received for board of Marine Hospital Service	2.00
18.	Cash received for board of S. C. Borrows	130.00
21.	Cash received for board of C. K. Yancey	91.00
21.	Cash received for board of Emily B. Wadsworth	28.00
25.	Cash received for board of Marine Hospital Service	974.57
28.	Cash received for board of John Weidman	91.00
31.	Cash received for board of Martha Herman	20.00
31.	Cash received for sale of stock, etc	122.26
Feb'y. 4.	Cash received for board of Amon Woodward	20.00
9.	Cash received for board of Chu-e-rah-rah-he-kah	91.00
21.	Cash received for board of E. A. Bradley	30.00
22.	Cash received for board of Martha Herman	20.00
28.	Cash received for board of Emily B. Wadsworth	28.00
28.	Cash received for sale of stock, etc	168.14
March 7.	Cash received for board of W. H. Hindes	65.00
9.	Cash received for board of Annie Young	14.28
11.	Cash received for board of Amon Woodward	20.00
20.	Cash received for board of Esau Gresham	390.00
23.	Cash received for board of Emily B. Wadsworth	28.00
23.	Cash received for board of Jennie M. Lowell	91.00
25.	Cash received for board of Martha Herman	20.00
26.	Cash received for board of E. A. Bradley	30.00
30.	Cash received for board and special attendance on Edw. Burchell	211.00
30.	Cash received for board of Adolph Berger	65.00
30.	Cash received for board of Sarah R. Cox	65.00
30.	Cash received for board of Elizabeth Howell	65.00
30.	Cash received for board of Amon Woodward	25.00
30.	Cash received for board of Soldiers' Home patients	771.43
30.	Cash received for board of M. A. Gilleland	65.00
30.	Cash received for board of Elizabeth Howell	1.43
30.	Cash received for board of M. E. Cazenove	156.00
30.	Cash received for board and special attendance on Rollin Perkins	75.00
30.	Cash received for board of Marine Hospital Service	897.43
30.	Cash received for board of Herman Buchlers	130.00
30.	Cash received for board of Bryan Hall	65.00
30.	Cash received for sale of stock, etc	193.53
April 13.	Cash received for board of W. H. Zepp	91.00
16.	Cash received for board of Christian Potter	65.00
17.	Cash received for board of Ida Van Brunt	20.00
19.	Cash received for board of S. C. Borrows	130.00
19.	Cash received for board of John Weidman	91.00
22.	Cash received for board of C. K. Yancey	91.00
22.	Cash received for board of Emily B. Wadsworth	28.00
27.	Cash received for board of Chu-e-rah-rah-he-kah	91.00
27.	Cash received for board of Martha Herman	20.00
30.	Cash received for sale of stock, etc	324.27
May 6.	Cash received for board of Amon Woodward	20.00

1889.

May	23.	Cash received for board of F. W. Yager.....	\$155.00
	24.	Cash received for board of E. A. Bradley.....	50.00
	25.	Cash received for board of Emily B. Wadsworth.....	28.00
	26.	Cash received for board of Martha Herman.....	20.00
	28.	Cash received for board of M. E. Cazenove	156.00
	31.	Cash received for board of William H. Hindes	65.00
	31.	Cash received for sale of stock, etc	238.39
June	8.	Cash received for board of Amon Woodward	20.00
	12.	Cash received for board of Emily B. Wadsworth	28.00
	15.	Cash received for board of J. M. Lowell	91.00
	15.	Cash received for board of Martha Herman	28.00
	29.	Cash received for board and special attendance on Edw. Burchell.....	211.00
	29.	Cash received for board of Lucy B. Newell	160.00
	29.	Cash received for board of M. A. Gilleland	65.00
	29.	Cash received for board of Christian Potter	65.00
	29.	Cash received for board of Amon Woodward	75.00
	29.	Cash received for board and special attendance on Rollin Perkins	75.00
	29.	Cash received for board and special attendance on G. Rockwood	10.00
	29.	Cash received for board of Bryan Hall	65.00
	29.	Cash received for board of Herman Buchlers	130.00
	29.	Cash received for board of Sarah R. Cox	65.00
	29.	Cash received for board of United States Soldiers' Home patients	776.43
	29.	Cash received for board of W. H. Zepp.....	91.00
	29.	Cash received for board of Emily B. Wadsworth	28.00
	29.	Cash received for board of William Griffiths	455.00
	29.	Cash received for board of C. K. Yancey	91.00
	29.	Cash received for board of S. C. Borrow.....	130.00
	29.	Cash received for board of Marine Hospital service.....	1,001.56
	29.	Cash received for sale of stock, etc.....	575.40
	29.	Cash received for board of Frank B. Hayes.....	130.00
	29.	Cash received for board of J. V. Lewis.....	65.00
	29.	Cash received for board of D. L. Kraft.....	96.00
		Total	22,366.90

PATHOLOGICAL SUPPLEMENT
TO THE
THIRTY-FOURTH ANNUAL REPORT
OF THE
GOVERNMENT HOSPITAL FOR THE INSANE
TO THE
SECRETARY OF THE INTERIOR.

1889.

REPORT OF POST-MORTEM EXAMINATIONS IN TWENTY-NINE
CASES OF MENTAL DISEASE:

PART I. Fifteen cases of General Paralysis, and three cases of Acute Organic Dementia.

PART II. Eight cases of Acute Mania, and three cases of Acute Insanity with maniacal symptoms, dependent upon organic brain disease.

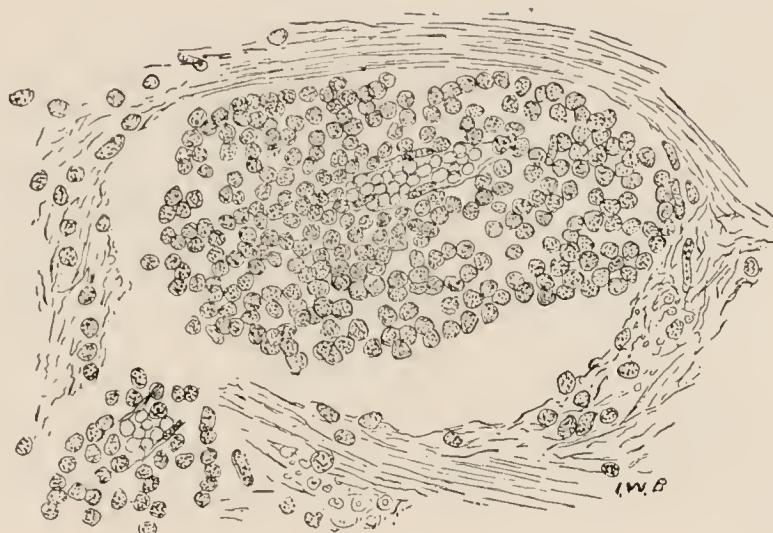


FIG. 1. Vessel from the medulla oblongata. $\times 250$. (Reduced $\frac{1}{5}$.)



FIG. 2. Small vessel from the gray matter of the cervical cord. $\times 250$. (Reduced $\frac{1}{5}$.)

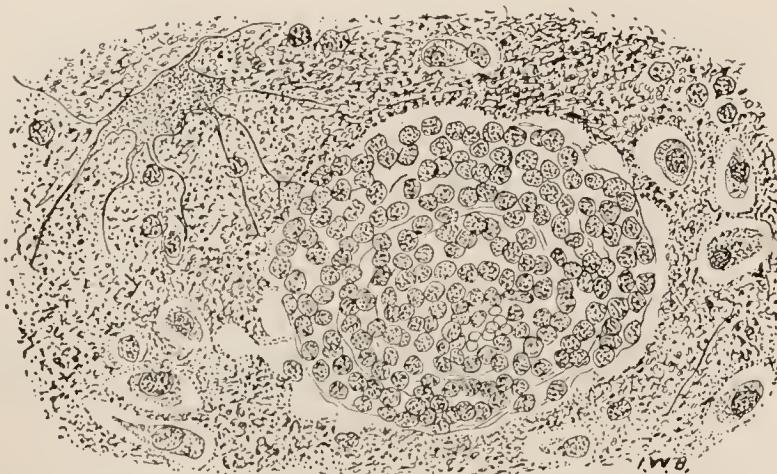


FIG. 3. Small vessel with thickened wall and the lumen nearly obliterated. Spider cell near the wall. $\times 250$. (Reduced $\frac{1}{5}$.)

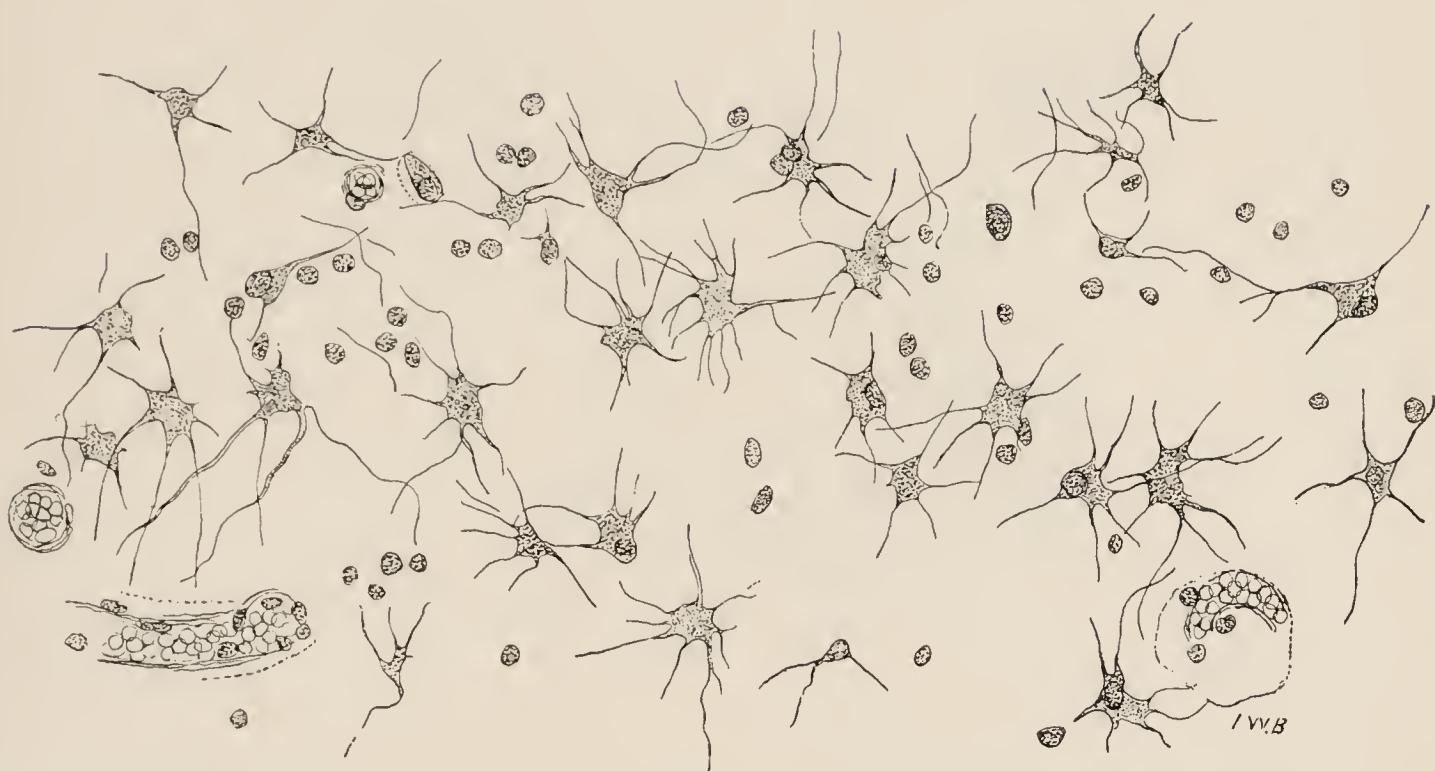


FIG. 4. Group of spider cells from the hippocampus major, central portion. $\times 250$. (Reduced $\frac{1}{5}$.)



FIG. 5. Spider cells among the large pyramidal cells of the hippocampus major. $\times 250$. (Reduced $\frac{1}{5}$.)



FIG. 6. Spider cells among the nerve cells of the stratum radiatum of the hippocampus major. $\times 250$
(Reduced $\frac{1}{5}$.)



FIG. 7. Spider cells from the gyrus fornicatus. $\times 250$. (Reduced $\frac{1}{5}$.)

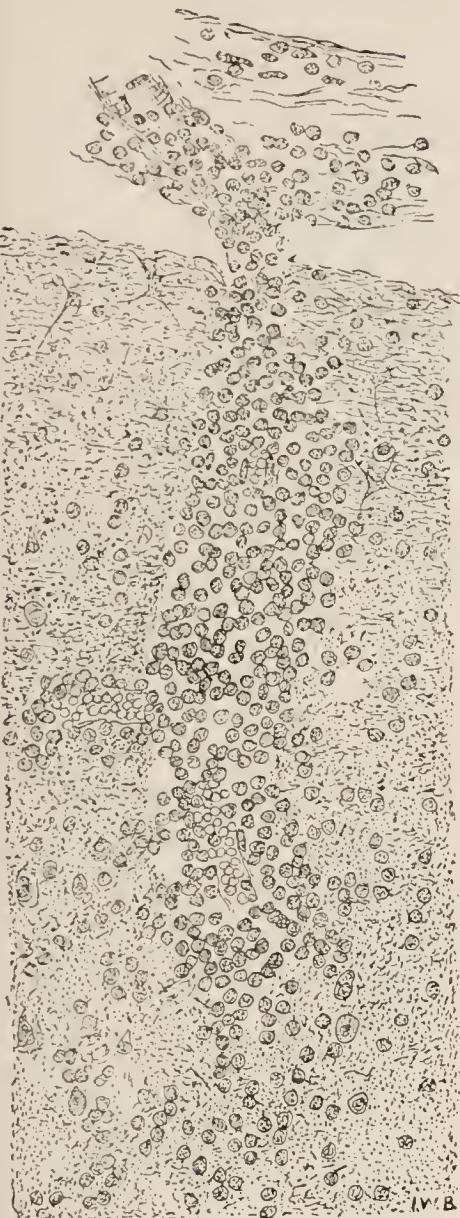


FIG. 8. Diseased vessel and pia mater from the occipital lobe. $\times 200$. (Reduced $\frac{1}{5}$.)

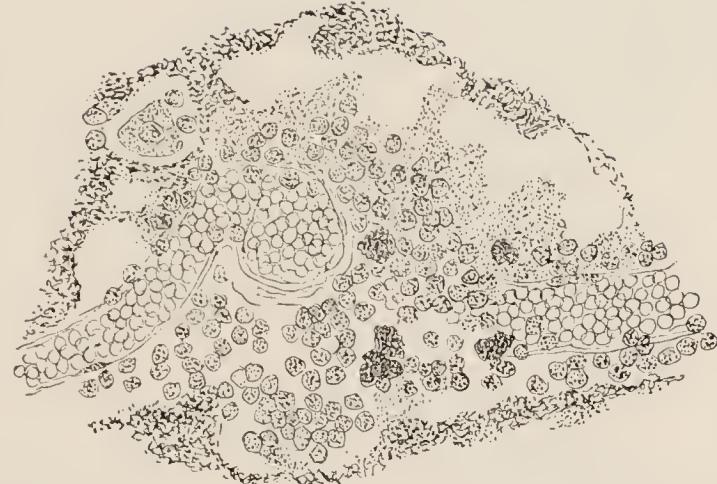


FIG. 10. Tortuous vessel cut in different directions. $\times 250$. (Reduced $\frac{1}{5}$.)



FIG. 9. Small vessel cut in many directions. $\times 250$. (Reduced $\frac{1}{5}$.)



FIG. 11. Small arteriole in the cortex of the motor region. $\times 200$.



FIG. 12. Small artery within large perivascular space; spider cells in the vicinity. $\times 250$. (Reduced $\frac{1}{5}$.)

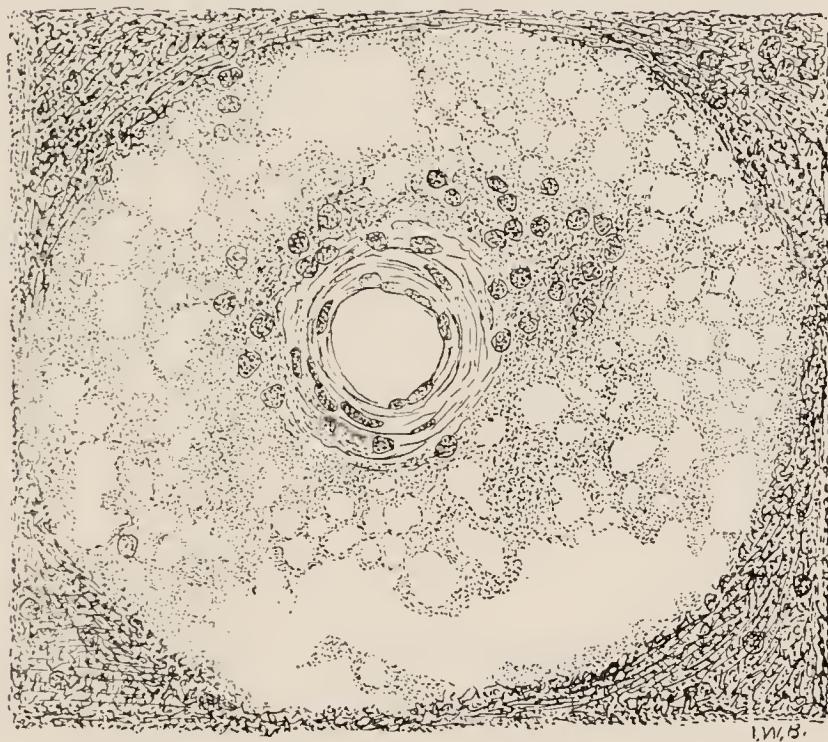


FIG. 13. Small artery from the white substance, with enlarged perivascular space. $\times 300$. (Reduced $\frac{1}{5}$.)

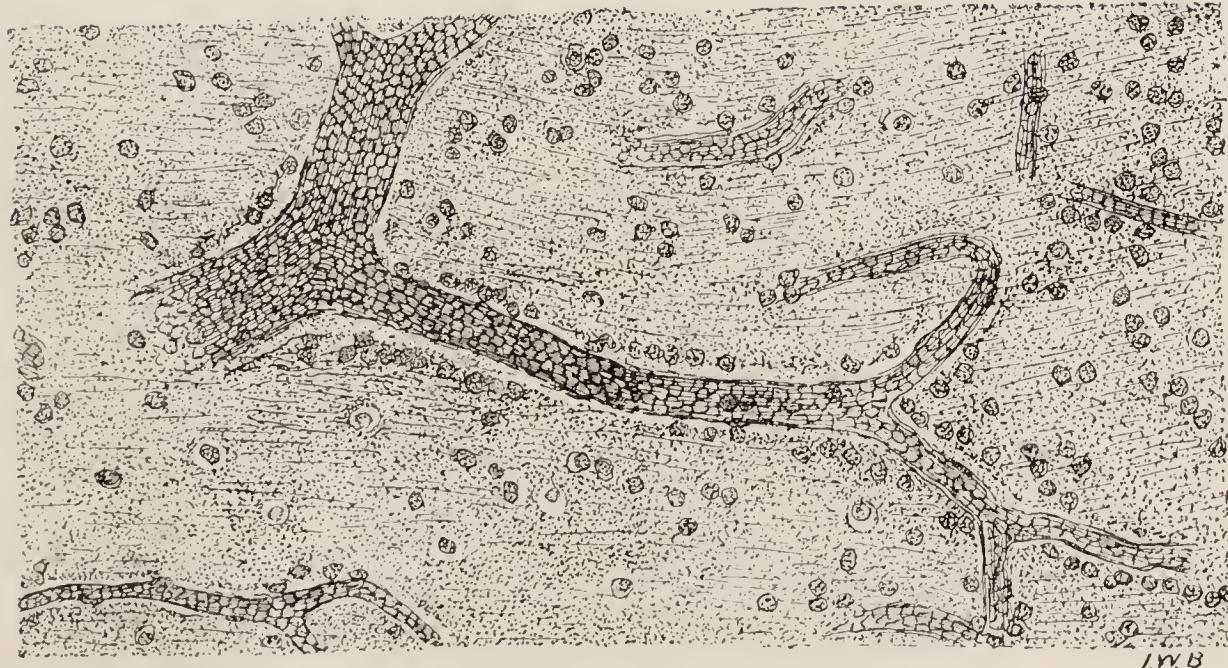


FIG. 14. Field from white substance of third frontal convolution. Dementia. $\times 250$. (Reduced $\frac{1}{5}$.)

DESCRIPTION OF DRAWINGS.

CASE 217, FIG. 1. Small vessel from the medulla oblongata, showing an enlarged perivascular space and an accumulation of leucocytes around the vessel.

CASE 217, FIG. 2. Small vein from the grey matter of the spinal cord, showing nuclear proliferation in the adventitia, and enlargement of the perivascular space.

CASE 222, FIG. 3. Small vessel in the cortex almost obliterated by growth of nuclei around it. Large spider cell, and granular nerve cells in the vicinity.

CASE 224, FIG. 4. Group of spider cells from the central portion of the hippocampus major. Basis substance not represented.

CASE 224, FIG. 5. Spider cells among the large pyramidal cells of the hippocampus major. Some of the nerve cells are shrunken (a), granular (b), and several of the spider cells are in connection with the wall of a capillary. Basis substance omitted.

CASE 224, FIG. 6. Spider cells and shrunken nerve cells from the stratum radiatum of the hippocampus major. The nerve cells were reduced in number, yellow, and the nuclei stained deeply.

CASE 230, FIG. 7. Field from the gyrus fornicatus, showing spider cells in connection with capillaries (a), shrunken and granular nerve cells (b), and a small homogeneous thrombus within a vein. Basis substance not drawn.

CASE 240, FIG. 8. A field from the occipital lobe, showing a diseased vessel in connection with the infiltrated pia mater, and spider cells in the outer layer of the cortex.

CASE 240, FIG. 9. A small tortuous vessel from the occipital lobe, cut in many directions.

CASE 240, FIG. 10. A small cortical vessel surrounded by cells, granular material, and pigment masses, and cut in a peculiar manner. Occipital lobe.

CASE 251, FIG. 11. A small curved arteriole in the cortex of the paracentral lobule, showing a thrombus within the curve of the vessel, and a greatly enlarged perivascular space filled with cells, granular material, and pigment masses.

CASE 251, FIG. 12. A small artery with enlarged perivascular space, and surrounded by a mass of granular material and a few cells. Four spider cells are seen in the vicinity, one of which sends a long process to the vessel. Inner portion of cortex of temporal lobe.

CASE 251, FIG. 13. Small artery with enlarged perivascular space filled with finely granular material, full of vacuoles; and a few cells around the vessel. (The nature of the granular material is not clearly determined, but the appearance is a very common one in cases of general paralysis, in which these spaces are visible to the naked eye.)

FIG. 14. This field was drawn from a section of the third frontal convolution, of a case of dementia. The vessels may be considered normal though filled with blood. Healthy cerebral vessels often show as many nuclei along the vessels as are seen in the drawing. The drawing was introduced to contrast the vessels and perivascular spaces with those of paresis.

APPENDIX A.

PART I.

Case 218. (On post-mortem records.)

B. F.; aged 37; female; colored; single; nativity, United States. This case was somewhat obscure in its early stages, but finally developed into a typical case of paresis. The history previous to admission could not be obtained, but the duration of the disease was probably over two years. The cause was unknown. The physical symptoms were more characteristic than the mental. Convulsions were frequent and death occurred from exhaustion and tuberculosis.

Autopsy, fifteen hours after death. Body, emaciated.

Cranium: Antero-posterior diameter, 7 inches; transverse, $5\frac{1}{2}$ inches. Skull, small, but of the usual thickness; the bone seemed harder than normal; dura mater, normal.

Brain: Weight, $37\frac{1}{2}$ ounces; slight opacity of pia arachnoid. Convolutions atrophied over the greater portion of the convexity, but especially the anterior extremities of the frontal and temporo-sphenoidal lobes. The consistence of the brain tissue was diminished; the cortex was thinned in the atrophied regions; the puncta vasculosa were somewhat prominent, and in some places the white substance presented a cribiform appearance from dilatation of the perivascular spaces; a similar condition was observed in the vessels of the cerebellum. Pia adhered slightly to the cortex, but could be removed without tearing the brain substance.

Lungs: Pleuritic adhesions and tuberculosis.

Heart, normal; spleen, normal to unaided eye.

Kidneys and liver were slightly contracted.

Uterus contained two fibroid tumors.

MICROSCOPICAL EXAMINATION.

Brain: Pia mater moderately infiltrated with lymphoid cells, and the small vessels of pia and cortex were filled with blood, and their coats thickened by proliferation of nuclei. Many vessels were very tortuous, and were cut in all directions in the sections; the perivascular spaces were enlarged, and contained free cells and yellow pigment granules.

The outer layer of the cortex was fibrous and contained small stellate cells, and these were also found scattered elsewhere in the cortex and subjacent white substance. The nerve cells were not greatly changed; some were unusually yellow and granular, but many appeared normal. The pericellular spaces were enlarged. The pia mater and vessels of the cerebellum showed changes similar to those of the cerebrum but of a less degree.

Slight nuclear proliferation was found in the vessels of the medulla, and the central canal of the spinal cord was not obliterated, otherwise these parts seemed normal.

Lungs showed the usual appearance of acute phthisis.

Spleen contained many miliary tubercles.

Liver, slightly cirrhotic, and filled with miliary tubercles.

Kidneys, slight increase of connective tissue.

Case 219.

J. T. C.; aged 37; married; druggist; nativity, United States. This was a typical case of paresis supposed to have been caused by syphilis. The duration was three years, and death was by exhaustion from the progress of the disease.

Autopsy, forty-eight hours after death. Body well nourished.

Cranium: Antero-posterior diameter, 7½ inches; transverse, 5½ inches. Skull, normal. Internal pachy-meningitis covering almost the whole cerebral dura.

Brain: Weight, 46 ounces. Great opacity and thickening of the pia arachnoid over the greater part of the brain. The convolutions were generally shrunken but especially those of the frontal and anterior temporo-sphenoidal regions. The brain substance was soft and there was some adhesion of membranes in the frontal regions. On section the cortex seemed thin over the atrophied convolutions; the puncta vasculosa prominent; and the perivascular spaces were visible to the naked eye. The ventricles were greatly dilated and the ependyma granular. The organ was flabby and when the ventricles were empty, sank under its own weight. The puncta vasculosa of cerebellum, pons, and medulla, were prominent and the white substance was darker than usual.

Lungs: Pleuritic adhesions, hypostasis, and a few caseous and calcareous nodules at the apices.

Heart, normal. Spleen small, soft, and pale.

Kidneys slightly contracted; other organs normal to naked eye.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was greatly thickened and its deeper layers infiltrated with round cells, and red blood corpuscles.

The vessels of the brain tissue were tortuous and distorted and great accumulation of cells had occurred in their walls and enlarged perivascular spaces. Large masses of brownish-yellow pigment were found in the thickened coats of the vessels, in the pia mater, and in the perivascular spaces of the brain. In a few of the medium-sized arteries a glassy appearance of the wall was observed. In some parts the vessels seemed to be unusually numerous.

The outer layer of the cortex contained a few small, branched cells, and some were found in other parts of the brain; they were most numerous in the hippocampal region.

The nerve cells were yellow, their protoplasm granular, and the pericellular spaces were very large.

The most decided changes were found in the hippocampus major and the gyrus hippocampi, and the occipital lobes were the least affected.

The vessels of the cerebellum were full of blood, but the organ was otherwise normal.

The vessels of the medulla and cord presented changes similar to those of the brain. The nerve cells were yellow and granular, and in a few the nuclei were obscured. The floor of the fourth ventricle was granulated and the spinal canal partly obliterated.

Lungs: Tubercular deposits in the apices.

Kidneys: Moderate interstitial nephritis.

Liver: Slight passive congestion and fatty infiltration.

Case 220.

J. D. S.; aged 51; colored; married; harness maker; nativity, United States. This case was probably an irregular form of paresis though the symptoms were not characteristic. He had apoplectiform attacks, impairment of muscular power, and partial aphasia. The mental signs were not observed on account of the dementia at the time of admission. The cause given was injury to head and loss of work. Duration was supposed to be about one year. Death occurred during an apoplectiform convulsion.

Autopsy, forty-eight hours after death. Body fairly nourished; skin covered with white patches—vitiligo.

Cranium: Antero-posterior diameter, 7½ inches; transverse, 5½ inches. Skull thinner than usual and the arterial depressions deep and tortuous. Dura slightly adherent to the bone.

Brain: Weight, 45 ounces. Pia arachnoid was slightly opaque over the superior regions of the convexity. The convolutions were moderately shrunken. The consistence of the brain substance reduced. The arteries of the circle of Willis were irregular in development and showed slight atheroma. Ventricles and ependyma appeared normal.

Lungs, hypostatic; slight valvular disease of heart, and atheroma of the aorta. Other organs apparently normal.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater showed moderate multiplication of nuclei, and the vessels of the brain had retained their contents; their walls were thickened by nuclei; and within the enlarged perivascular spaces were free leucocytes, red blood cells, and pig-

ment granules. In the vicinity of some of the diseased vessels a few spider cells were found.

The nerve cells were in the various stages of yellow granular degeneration, but many appeared normal.

The vessels of cerebellum and medulla showed traces of nuclear increase, and in the medulla were a few yellow shrunken cells, and others with patches of yellow pigment exceeding the normal in size.

The other organs presented microscopical changes, but nothing of special importance.

Case 222.

J. F.; aged 49; widower; sailor; nativity, United States. The symptoms in this case were characteristic, though the disease had existed some time before admission. The duration was about four and a half years, and death was caused by bulbar paralysis.

Autopsy, thirteen and a half hours after death. Body well nourished; bed sores over sacrum.

Cranium: Antero-posterior diameter, $7\frac{1}{4}$ inches; transverse, $5\frac{5}{8}$ inches. Skull and dura normal.

Brain: Weight, $44\frac{1}{2}$ ounces. Diffused opacity of pia arachnoid and adhesion of the membranes of the median surfaces in the frontal region. Convolutions of the frontal and middle regions shrunken and the brain flabby, soft, and oedematous. On removal of the pia mater some decortication occurred over the summits of the convolutions.

The ventricles were slightly dilated and the ependyma was granulated. The puncta vasculosa were prominent in the posterior portions, and a few small hemorrhages were found.

Lungs: Pleuritic adhesions and hypostatic congestion.

Heart: Slight valvular disease and some fatty degeneration of the intima of the aorta. Other organs presented nothing unusual.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was infiltrated with nuclei, and in the vicinity of the vessels were large masses of brownish pigment and free blood corpuscles. Small hemorrhages were numerous in both membranes and brain substance.

The vessels of the cortex, and to a less degree those of the white substance, were distorted, their walls thickened by proliferation of nuclei, and the perivascular spaces were enlarged and filled with free cells, blood corpuscles, and pigment granules. The brain tissue in the vicinity of some of the vessels showed an increased number of neuroglial nuclei.

The outer layer of the cortex was fibrous and contained many spider-cells, and these cells were found throughout the cortex and in the outer portion of the white substance. The spider-cells were more numerous in the vicinity of diseased vessels, and frequently a large branch was seen to join the wall of a vessel.

The nerve-cells were yellowish, granular, and crumbled, and the pericellular spaces were enlarged. The nerve-cells of the hippocampus major presented the above changes in a marked degree.

The vessels of cerebellum, pons, medulla, and cord showed changes similar to those of the brain, and the nerve-cells of medulla and cord were yellow and granular. The floor of the fourth ventricle was slightly granulated, and the central canal of the spinal cord was closed.

The lungs showed passive congestion and exudation.

The liver was slightly congested, and the cells pigmented.

Other organs corresponded with the naked-eye appearances.

Case 224.

J. A. G.; aged 51; single; soldier; nativity, United States. This case presented many of the characteristics of epileptic insanity. The convulsions occurred late in life, were decidedly epileptiform, and were supposed to be due to organic disease of the brain, of specific origin. The convulsions were frequent; there was slight general ataxia and progressive dementia, and the disease terminated in bulbar paralysis after a duration of over two years.

In view of the supposed relation of lesions of the cornu ammonis to epilepsy, the localization of the greatest intensity of the disease in this region becomes of some interest.

Autopsy nine hours after death. Body well nourished.

Cranium: Antero-posterior diameter, $7\frac{1}{2}$ inches; transverse, $5\frac{5}{8}$ inches. The skull was peculiar in shape, the outline of the fronto-occipital circumference being nearly a perfect ellipse. Slight internal pachymeningitis over the whole right side and base.

Brain: Weight, 47 ounces. Opacity and thickening of pia arachnoid over the anterior and middle regions of the convexity; veins full of blood; no adhesions to cortex of convexity. Convolutions moderately shrunken over the fronto-parietal convexity and median surface in the anterior portion. Ventricles dilated; ependyma granular, especially in the fourth ventricle. The cortex was mottled, with reddish areas; the puncta vasculosa prominent, and the white substance cedematous. Nothing unusual was noticed in other parts of the brain.

Lungs, hypostatic. Nothing of importance was observed in the other organs.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was thickened, and around the vessels were accumulations of nuclei. Sections from the anterior, middle, occipital, and temporal regions showed but little change in the vessels. Some were much distorted and tortuous in their course, but there was not much cellular proliferation in their walls and perivascular spaces. The outer layer of the cortex was coarsely fibrous, and a few branched cells were found; and a few such cells were found in other parts of the cortex of the convexity. The nerve-cells were yellow, granular, and the margins more or less disintegrated. The pericellular spaces were enlarged.

In the hippocampal region a great degree of change was found in vessels and cells. The vessel walls were greatly thickened by proliferation of nuclei in their walls, and in some the lumen was nearly obliterated. Large accumulations of cells, pigment, and red blood corpuscles were found around nearly all the vessels, and in some places nuclear infiltration had extended for some distance around into the brain substance.

Great numbers of spider-cells were found in this region, especially in the stratum radiatum of the hippocampus major. The cells of this layer were yellow, attenuated, and their number apparently diminished.

The cerebellum showed but little evidence of disease. A few more nuclei than normal were seen along some of the vessels, and they were full of blood.

The medulla was but little altered; the vessels were full of blood, and a few small hemorrhages were found. The nerve-cells did not stain well, and a few were very granular.

The spinal cord showed slight hyperplasia of the neuroglia in the posterior columns. The cells were not appreciably changed. The spinal canal was obliterated.

Lungs and spleen showed passive congestion. Other organs presented nothing abnormal.

Case 226.

A. M. W. F.; aged 32; female; married; nativity, United States. Maniacal symptoms were very prominent when first admitted, but subsequently delusions of wealth, motor disturbances, and other symptoms of general paralysis appeared. The cause was unknown. The duration was about five years, and the disease terminated in complete physical and mental paralysis. Death occurred in an epileptiform convulsion.

Autopsy, eighteen hours after death. Body emaciated; decomposition commencing.

Cranium: Antero-posterior diameter, $6\frac{5}{8}$ inches; transverse diameter, 5 inches. Skull symmetrical, but unusually small; dura mater, normal.

Brain: Weight, 30 ounces. Pia arachnoid opaque, thickened, cedematous, and the veins engorged. The membrane was not adherent to the convolutions. There was general atrophy of the convolutions, but greater in the anterior portion of the brain. The ventricles were dilated and the ependyma granulated. Vessels at the base normal.

Lungs, heart, spleen, and liver were not in any way remarkable. Uterus and appendages normal.

The kidneys were slightly contracted. Evidences of a former perityphlitis.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was densely infiltrated with nuclei and extravasated red blood cells.

The vessels of the brain showed great accumulation of nuclei and pigment granules in their walls and perivascular spaces. Many vessels were filled with blood, and rupture and escape of blood into the perivascular spaces was frequently observed. The brain tissue near some of the diseased vessels was richly cellular, and in some places

the cortex blended with the vessel walls, or the pia mater, by continuous cell growth. The outer layer of the cortex was fibrous and contained round nuclei and small spider-cells in great numbers. The spider-cells were found throughout the cortex and the subjacent white substance; especially were they numerous in the frontal regions where the greatest intensity of the disease was found.

The nerve-cells showed the various stages of granular degeneration. Many cells, however, appeared perfectly normal.

The pia mater of the cerebellum, medulla, and spinal cord was moderately beset with nuclei, and the blood vessels were full of blood and showed traces of change similar to those of the cerebrum. The lining of the fourth ventricle was thickened and granulated, and the central canal of the spinal cord was open. The nerve-cells of these parts showed no definite changes.

Kidneys: Slight increase of connective tissue.

Case 230.

H. A.; aged 37; single; soldier; nativity, Prussia. This was a typical case of paresis, and the cause assigned was syphilis. The symptoms were characteristic and the facial expression typical. The duration was eighteen months, and the disease terminated in death from bulbar paralysis.

Autopsy, three hours after death. Body well nourished.

Cranium: Antero-posterior diameter $7\frac{1}{2}$ inches, transverse 6 inches. Skull normal except congestion of the diploe; dura mater normal.

Brain: Weight $47\frac{1}{2}$ ounces. Pia arachnoid exhibited a few patches of opacity, was slightly thickened but not adherent to cortex. In the fronto-parietal and orbital regions the convolutions were extremely atrophied and distinctly hardened. The right hemisphere was more shrunken than the left. The gray substance everywhere presented a mottled appearance from darker, alternating with lighter areas, the puncta vasculosa were prominent and the white substance was edematous. The vessels at the base of brain were slightly atheromatous.

The other organs were not all normal, but presented no noteworthy appearances.

MICROSCOPICAL EXAMINATION.

Brain. The pia mater in the region of the vessels was richly nuclear; the vessels were filled with blood; red blood cells were extravasated, and within some of the vessels were small, homogeneous, darkly-stained masses, probably thrombi. The cerebral vessels of greater part of the convexity showed but little change, the most noticeable being distension of the lumen by red blood cells, which had frequently escaped into the perivascular spaces. There was but little nuclear proliferation in or around the vessel walls, but many were very tortuous, and the perivascular spaces were widened. Yellow pigment masses were very numerous along the line of the vessels.

The outer layer of the cortex was fibrous, and a few small branched cells were found within it; but in the deeper layers of the greater part of the cortex they were rarely discovered.

In the frontal region above and below, and in the gyrus fornicatus, more decided changes were found.

Spider-cells were found in great numbers, and the vessels presented the nuclear proliferation usually seen.

The nerve-cells were yellowish; the bodies of some were disintegrated, but the changes were not very decided.

Other regions of the cerebral cortex, the cerebellum, pons, medulla, and cord, showed fullness of the vessels and traces of multiplication of nuclei. The nerve-cells showed nothing but a few brownish granular cells in the medulla. Scattered spider-cells were found in medulla and cord.

The floor of the fourth ventricle was faintly granulated, and the central canal of the spinal cord was open.

The microscopical appearances of other organs were unimportant.

Case 231.

M. W.; aged 36; female; colored; married; nativity, United States. When this patient was admitted the disease was in the early stages, and melancholia was the most prominent symptom. She had delusions in regard to the abdominal viscera, and tried to injure herself. Later on the symptoms of paresis became more characteristic, but the physical were more so than the mental. The duration was unknown, but she was in the hospital eighteen months. Convulsions and paralyses were pres-

ent in the later periods, and death occurred from exhaustion and gangrene of the lungs.

Autopsy, fifteen hours after death. Body much emaciated; large bed sore over sacral region.

Cranium: Antero-posterior diameter, 7 inches; transverse, 5½ inches. Skull, thick and dense, and the sutures were not visible in the inner table. The dura mater showed internal pachymeningitis extending over the left side and part of the middle cerebral fossa.

Brain: Weight, 37 ounces. The pia arachnoid was but slightly opaque and was not adherent to the cortex. The convolutions were shrunken over the whole cerebral surface, but less so in the occipital regions. The cortex was yellowish, anaemic, and soft. The ventricles were slightly dilated, and the ependyma granulated. The cortex of the cerebellum was yellowish and the consistence of the organ reduced.

Lungs: A gangrenous center was found in the upper lobe of the left lung, and the greater portion of the lung was solidified.

Heart, atrophied. Other organs free from gross lesions.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was irregularly infiltrated with nuclei in its deeper layers and around the vessels. The vessels of the brain substance had greatly thickened walls from proliferation of nuclei, and in the enlarged perivascular spaces great accumulations of nuclei, pigment, and red blood-cells were found. Some of the small arteries were much convoluted and were cut in all directions in the sections. A few were seen with a glassy, hyaline appearance of their middle coats. The greatest change in the vessels was located in the tips of the temporal lobes.

The outer edge of the cortex was coarsely fibrous, and had numerous spider cells. Large, cloudy, faintly-branched cells were found in cortex and white substance; by careful study these were found to be identical with Deiter's cells. In some portions of the white matter these swollen cells were very numerous, and they passed by all gradations into the usual spider-shaped cells of the cortex.

The nerve cells were yellow and attenuated in all parts of the brain. The pericellular spaces were enlarged.

The cerebellum, medulla, and cord showed a slight degree of nuclear increase about the vessels and membranes. The nerve cells were quite yellow, and in the medulla were some cells entirely converted into brownish granules. Small granulations in the floor of the fourth ventricle. Spinal canal obliterated.

Lungs: Acute secondary pneumonia of left.

Liver: Slight passive congestion and pigmentation of the cells.

Kidneys: Connective tissue somewhat increased and the cells crumbled.

Case 237.

F. S.; aged 46; married; boatman; nativity, United States. This case was considered typical. The cause given was sunstroke. Duration, six years. Immediate cause of death, bulbar paralysis.

Autopsy, ninety hours after death. Body well nourished; bed-sores over sacrum and trochanters.

Cranium: Antero-posterior diameter, 7 inches; transverse, 6 inches. Diploe congested and the small veins of inner table enlarged, making peculiar linear and stellate markings. Internal pachymeningitis of right side.

Brain: Weight, 45½ ounces. Slight opacity of pia arachnoid in the vicinity of the veins. Median surfaces coherent in the frontal regions, and the membranes adhered slightly to the summits of the convolutions. Over the fronto-parietal regions and the anterior median surfaces the convolutions were shrunken. The cerebral arteries normal. The ventricles were dilated; the ependyma smooth, except in the fourth, where it was faintly granular. The brain was soft, probably post-mortem change.

Lungs: Pleuritic adhesions and hypostasis.

Spleen: Showed chronic perisplenitis.

Other organs presented nothing unusual.

MICROSCOPICAL EXAMINATION.

Brain: Nuclear proliferation around the veins of the pia mater. The cerebral vessels were tortuous, thickly coated with leucocytes, and within the widened perivascular spaces were free cells, extravasated blood cells, and yellow pigment.

The outer layer of the cortex exhibited a fibrous appearance, and a few small branched cells were found.

The nerve cells were remarkably well preserved for so long after death. Nothing abnormal was observed, except a degree of yellowness, slightly exceeding the normal.

Their shapes were preserved and scarcely any crumbling was noticed. The vessels of the cerebellum and medulla were slightly diseased, but the cells showed nothing but slight yellow opacity.

Case 240.

B. W.; aged 33; marine, U. S. Navy; nativity, Scotland. The physical symptoms were typical; the mental, less characteristic. The cause assigned was syphilis, and the duration was twenty months. There were delusions of apprehension and depression, glosso-labial paralysis, general ataxia, and finally epileptiform convulsions, in which death occurred.

Autopsy, thirteen hours after death. Body fairly well nourished.

Cranium: Antero-posterior diameter, 7½ inches; transverse, 5½ inches. Skull, normal; dura mater showed a rusty color, due to early internal pachymeningitis.

Brain: Weight, 47½ ounces. Subdural space dry, and the surface of the arachnoid slightly sticky. A small area over the sphenoid bone, and one over the cavernous sinus, adhered to the dura mater. The pia was slightly opaque, but not adherent to the convolutions. There was slight atrophy of the convolutions; the cortex was mottled with reddish areas; puncta vasculosa prominent, and the consistence was reduced. The ventricles were moderately dilated, and the ependyma faintly granulated. Pia of pons, medulla, and cerebellum, opaque.

Lungs showed the various appearances of the early stages of pneumonia.

Heart: Mitral valve slightly diseased.

Other organs appeared normal.

MICROSCOPIC EXAMINATION.

Brain: Moderate increase of nuclei in the pia mater; some extravasation of red blood cells, and coagula within some of the vessels. In the brain tissue the vessel walls were much thickened by nuclear growth; the perivascular spaces greatly enlarged and filled with free cells, red blood-corpuscles, and pigment. Small homogeneous masses, which, stained deeply in carmine, were found in many of the vessels, and recent coagula in some. Many of the vessels were tortuous in their course, and were cut in many directions.

The outer layer of the cortex contained a few spider cells, and throughout the cortex and portions of the white substance were cloudy indistinctly branched or round cells of the same character. In some places near the vessels the brain substance was rich in nuclei, blending with the cell growth around the vessels.

The brain cells were generally well shaped and natural in appearance, but many yellow, granular, and disintegrated cells were found. The pericellular spaces were enlarged.

There was slight change in the cerebellum of the same character as that of the cerebrum, but no spider cells.

The vessels of medulla and cord were almost the same as those of the brain. The nerve cells were, some of them, yellow and opaque; a few in the medulla were totally degenerated. Some small granulations in the ependyma of the fourth ventricle, and the spinal canal obliterated.

Examination of the other organs confirmed the naked-eye diagnosis.

Case 251.

L. F.; aged, 22; female; colored; single; domestic; nativity, United States. History, previous to admission, could not be obtained, but the duration was probably two years. The cause was unknown. The physical symptoms were more typical than the mental, the latter being melancholic in character. Motor paralysis became general and death occurred in epileptiform convulsions.

Autopsy, twenty-five hours after death. Body well nourished.

Cranium: Antero-posterior diameter, 7½ inches; transverse, 5 inches. Skull unusually thick; diploe congested and the small vessels of the inner table enlarged. Dura mater slightly adherent to the calvaria.

Brain: Weight, 35 ounces. Slight opacity of pia arachnoid, but no adhesion to cortex. The convolutions were shrunken over the greater part of the brain. The cortex was darker than usual, and the perivascular spaces were visible to the naked eye, and crooked vessels could be seen lying within them. The puncta vasculosa were quite distinct. The ventricles were enlarged, and the ependyma of the fourth was faintly granulated.

Lungs: Bronchitis with fetid secretion, and a small center of gangrene near the root of right lung.

The uterus was anteflexed and bound down by adhesions, and the ovaries were cystic and misplaced.

Other organs appeared normal to naked eye.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was beset with nuclei, especially near the vessels. The vessels were extensively diseased; their walls were thickened greatly by cell growth, and many were very tortuous and distorted, and thrombi and recent fibrinous coagula were found. The perivascular spaces were enlarged to many times the diameter of the contained vessels, and the spaces were filled with cells, pigment, granular material, and red blood-cells. Many small hemorrhages were found. A few vessels had thickened glassy walls. Within the fibrous outer layer of the cortex were many spider cells, and scattered through cortex and outer portion of the white substance were larger cells of the same nature. The nerve cells presented no very definite change, though many were found with yellow and granular protoplasm. The pericellular spaces were enlarged.

The vessels of cerebellum and medulla showed a mild degree of change, similar to those of the brain. No special alteration in the cells. Nothing unusual was observed in the spinal cord; the central canal was closed.

Lungs: Secondary pneumonia, due to gangrene.

Kidneys normal. Liver showed slight passive congestion. Spleen normal.

Case 267.

J. E.; aged 40; colored; laborer; nativity, United States. The patient was admitted when the dementia was far advanced, and the mental symptoms were therefore not characteristic. Glosso-labial paralysis and general inco-ordination were marked. The cause was unknown. The duration was about two years, and death was from exhaustion.

Autopsy, thirteen hours after death. Body well nourished; bed sores over sacrum, trochanters, and scapulae.

Cranium: Antero-post diameter $7\frac{1}{2}$ inches; transverse, $5\frac{1}{4}$ inches. Skull unusually thin in the frontal regions, and several small exostoses were found on the inner surface of the frontal bone. Dura mater was slightly adherent in the frontal region.

Brain: Weight, $37\frac{1}{2}$ ounces. Diffused opacity of pia arachnoid over its whole extent, and slight adhesion to the summits of the convolutions. The convolutions were much shrunken and the ventricles extremely dilated. The ependyma was very granular over its entire extent.

The right posterior cerebral artery was very small at its first part, before it was joined by the posterior communicating; the latter was enlarged, and furnished the main blood supply.

Lungs: Slight pleuritic adhesions and subpleural hemorrhages in posterior portions.

Heart: Dilatation and hypertrophy, and slight disease of aortic valves. Aorta atheromatous.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was thickened and its deeper layers infiltrated. The vessels of the brain retained their contents, and showed a slight increase of nuclei in walls and perivascular spaces. Some pigment along the vessels. The nerve cells were yellow and shrunken, and many were much disintegrated. The vessels of cerebellum, medulla, and cord were full of blood, and showed a few extra nuclei. The central canal was obliterated, and the spinal pia mater thickened.

Other organs showed nothing of interest.

Case 268.

P. B.; aged 35; single; soldier; nativity, Germany. This case was somewhat irregular in its course, but was, without doubt, paresis. The symptoms were progressive dementia, mental exaltation, glosso-labial paralysis, ataxic gait, and finally bulbar paralysis occurred. The cause was sunstroke, and the duration one year.

Autopsy, five hours after death. Body well nourished; bed sores over sacrum.

Cranium: Antero-posterior diameter, $7\frac{1}{2}$ inches; transverse, 6 inches. Skull elliptical in outline. The depressions corresponding to the upper ends of the central convolutions were unusually distinct. Dura mater normal.

Brain : Weight, 43½ ounces. Opacity of pia arachnoid over the greater portion of the convexity, but less decided over the occipital lobes. The convolutions were shrunken and slightly indurated in the fronto-parietal regions and the anterior extremities of the temporal lobes. The ventricles were enlarged and the ependyma granulated. The cortex was thin in the atrophied regions; some of the perivascular spaces visible to the naked eye, and the puncta vasculosa were moderately distinct.

The right vertebral artery was very small, the posterior cerebral of the same side also small at its first part, and the right posterior communicating was large and furnished the main blood supply to this part of the brain. The right anterior cerebral artery was very small at its origin, and received its blood supply mainly through a dilated anterior communicating artery.

Lungs : The mottled appearance and irregular solidification of broncho-pneumonia. Other organs presented nothing remarkable.

MICROSCOPICAL EXAMINATION.

Brain : The pia mater was infiltrated with nuclei, blood cells, and yellow pigment. The vessels of the brain showed a great accumulation of nuclei, or leucocytes, in their walls and perivascular spaces. The perivascular spaces were greatly enlarged, the vessels tortuous, and some small hemorrhages were found.

The outer layer of the cortex was coarsely fibrous, and contained many spider-shaped cells, and these were also found scattered through other parts of the cortex and subjacent white substance.

The nerve cells did not show decided changes; a few were yellow and granular, but in many the disease had left no visible alteration.

All parts of the cerebrum were affected, but the occipital lobes were less so than the anterior portions.

The vessels of the cerebellum and medulla showed a slight degree of nuclear proliferation, and the nerve cells of the latter were slightly yellow and granular. The spinal cord presented nothing unusual, except dilated perivascular and other lymph spaces.

The lungs showed the microscopical appearance of catarrhal or broncho-pneumonia, with hemorrhagic exudate.

The liver showed slight passive congestion.

Case 270.

J. S.; aged 45; married; soldier; nativity, Germany. This was a typical case of paresis, terminating in death from exhaustion and maniacal excitement. The cause given was injury to head, and the duration was nine months.

Autopsy, twenty-four hours after death. Body emaciated.

Cranium : Antero-posterior diameter 7 inches; transverse, 5½ inches. The frontal suture was present, otherwise the skull was normal. Dura mater thickened, but not adherent to the bone.

Brain : Weight, 45½ ounces. Diffused opacity of pia arachnoid over almost the whole brain, but more decided over the fronto-parietal regions. The convolutions were shrunken; the consistence of the brain substance reduced. Adhesion and decortication over the whole cerebrum, and interlobar adhesions of frontal regions. The ventricles slightly enlarged; the ependyma smooth. Perivascular spaces visible to naked eye; cortex darker than normal.

Lungs : Hypostatic congestion, pleuritic adhesions, and small subpleural hemorrhages.

Atrophy and slight valvular disease of the heart.

The liver, spleen, and kidneys showed passive congestion and its effects.

MICROSCOPICAL EXAMINATION.

Brain : The pia mater showed great infiltration, with nuclei, red blood-cells and pigment. The vessels of the brain were full of blood, and small hemorrhages into the perivascular spaces were found. The coats of the vessels were thickened by proliferation of nuclei, and their perivascular spaces were enlarged, and contained great accumulations of cells and pigment. A few small spider-cells were found in the outer layer of the cortex, and scattered through other parts of cortex and white substance.

The nerve cells, of all sizes, were more or less yellow, granular, and shrunken. In the hippocampal region the cell degeneration was particularly noticeable. The pericellular spaces were enlarged.

The vessels of the cerebellum were congested, but nothing else was abnormal.

The medulla was congested ; the cells yellow, granular, and disintegrated.

The connective tissue of the cord was coarser than usual, and some of the ganglionic cells opaque and the nuclei obscured. The central canal of the cord was closed.

The naked eye appearances of the other organs were confirmed.

Case 283.

R. D.; aged 49; married; clerk, U. S. A.; nativity, United States. This case was irregular, and the diagnosis was uncertain. The disease had existed at least eighteen months when admitted, and the dementia was far advanced. Sub-acute maniacal attacks were experienced, and there was slight general ataxia. The cause was supposed to be specific. The disease terminated by œdema of lungs and heart disease after a duration of two years and four months.

Autopsy, sixteen hours after death. Body well nourished.

Cranium: Antero-posterior diameter, $7\frac{1}{2}$ inches ; transverse, $5\frac{3}{4}$ inches. The depressions for the convolutions were unusually well marked, and the diploe was congested. The dura mater was adherent at the vertex.

Brain: Weight, $43\frac{1}{2}$ ounces. The pia arachnoid was opaque over the anterior and middle regions ; over the basal and occipital regions it seemed normal. The brain was flabby, and sank with its own weight, and there was moderate atrophy of the convolutions corresponding in extent to the disease of the membranes. The ventricles were moderately enlarged, and the lining was faintly granulated in the fourth. Vessels of the base showed a few patches of opacity, but no obstruction of the lumen. Other parts of the brain presented nothing unusual.

Lungs, œdematos, and the bronchi inflamed. Valvular disease of the heart, with hypertrophy and dilatation. Aorta corrugated and atheromatous. Other organs presented normal appearances.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was thickened, and nuclei were very numerous in the vicinity of the vessels. There was a moderate increase of nuclei in the walls of the blood-vessels of the cortex. The perivascular spaces were enlarged, and a few leucocytes and pigment granules were found within them.

Some small branched cells were seen in the outer layer of the cortex, but few were found elsewhere. The nerve-cells were yellow, granular, and some were slightly disintegrated at their margins.

In the cerebellum no decided change was found.

The vessels of the medulla showed traces of nuclear growth, and a few of the ganglionic bodies were filled with brownish granules, obscuring the nucleus. The spinal cord showed nothing unusual ; the central canal was closed.

The microscopical study of the other organs confirmed the naked-eye diagnosis.

Case 253.

J. G.; aged 50; single; sailor ; nativity, United States. Though placed with the cases of paresis, the diagnosis was uncertain. The dementia was far advanced when he was admitted, and the diagnosis was based mainly upon the facial expression, and the paralysis which existed, and finally passed into general ataxia. The case was probably dementia, due to organic disease of the brain. The duration was about four years. The cause was believed to be specific disease.

Autopsy, thirty-three hours after death. Body well nourished.

Cranium: Antero-posterior diameter, $7\frac{1}{2}$ inches ; transverse, $5\frac{3}{4}$ inches. Skull thick and dense, and the arterial depressions strongly marked. Vessels of dura full of blood.

Brain: Weight, 48 ounces. Pia arachnoid normal, not adherent to cortex. Slight atrophy of convolutions in the fronto-parietal regions. Atheroma of arteries of the base. Ventricles and ependyma normal. On section a large softening was found in the left hemisphere, involving the posterior portion of caudate nucleus, internal capsule, and lenticular nucleus. The brain substance was mottled, with reddish areas.

Lungs: Slight pleuritic adhesions and hypostasis.

Heart: Moderate thickening of valves of left side.

Liver: Slight passive congestion and contraction.

Kidneys: Interstitial nephritis.

Spleen: Increase of fibrous tissue.

MICROSCOPICAL EXAMINATION.

Brain: No disease of pia mater. Vessels of brain were filled with blood, and a few extra nuclei were found in their vicinity. Some capillary hemorrhages were found, the blood filling the perivascular spaces, and thus proving an enlargement which

must have existed during life. The nerve cells were well preserved, especially in certain regions. A few were yellow and granular. In the cerebellum, medulla, and cord, nothing was abnormal, except unusual fullness of the vessels and a few granular cells in the medulla. The central canal of the spinal cord obliterated.

Of the other organs the diagnosis was confirmed.

Case 285.

H. R.; aged 40; colored; married; laborer; nativity, United States. This case was recognized as one of post-apoplectic dementia with hemiplegia, but as the symptoms were somewhat similar to those of paresis, and the microscopic appearances have a certain histological relation, the case has been placed with those of paresis, but is not included in the summary. The patient had a history of intemperate habits, but the insanity was caused by a cerebral hemorrhage, followed by abscess, ependymitis, and arachnitis. The duration was fifteen months, and death was caused by a second hemorrhage.

Autopsy, six hours after death: Body well nourished.

Cranium: Antero-posterior diameter, $7\frac{1}{2}$ inches; transverse, $5\frac{1}{2}$ inches. Skull, thin; internal surface of dura and the surface of the arachnoid sticky from slight exudate.

Brain: Weight, 55 ounces. Pia arachnoid seemed normal, except the basal portion, where the arachnoid was opaque and the fluid beneath it sero-purulent.

The convolutions were flattened and the brain was swollen. Arteries at the base atheromatous.

The ventricles were dilated, filled with sero-purulent fluid, and the ependyma was faintly granulated.

The inflammation had extended by continuity from a small abscess, which was situated near the wall of the ventricle, opposite the optic thalamus. The abscess had originated in the cicatrix of a hemorrhage, which was situated in this region, above the level of the basal ganglia. On the right side was a large recent hemorrhage into the optic thalamus. The brain tissue was soft, the internal parts almost diffused.

Lungs, hypostatic; heart, hypertrophied. Other organs showed nothing important.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was not diseased, except slightly over the seat of the hemorrhagic cicatrix. The brain in general showed but little alteration. The vessels had some pigment granules around them, but there was little indication of disease. A few nerve cells were yellow and granular, but the majority showed nothing abnormal.

In the vicinity of the inflammatory center, and in all sections which bordered upon the ventricles, very decided changes were found. The vessels were thickly coated with nuclei, and the brain tissue infiltrated in the vicinity. Spider cells were found in this region and beneath the inflamed ependyma. At the seat of the hemorrhage abundance of yellow blood pigment was found, and around the abscess the small cell proliferation, large granular cells, and other signs of acute inflammation of the brain substance.

Nothing abnormal was found in the cerebellum.

The pia mater of the medulla showed signs of inflammatory cell proliferation, and the vessels of the nerve substance showed proliferation of nuclei within their walls, and perivasculär spaces.

The pia mater of the cervical cord was inflamed, thickened, and adherent. The central canal of the cord was obliterated. The nerve cells of medulla and spinal cord showed nothing unusual.

The histological appearances of the other organs corresponded with the naked-eye diagnosis.

Case 300.

T. S.; aged, 68; single; soldier; nativity, United States. This case was probably dementia following haematoma of the dura mater, but was placed with the paretic cases for the same reason as the last. The case was of 6 months' standing when admitted, and the diagnosis was difficult. He had some expansive delusions, the facial expression resembled that of paresis, there was some paralysis, and finally death from bulbar paralysis. The cause of the haematoma was unknown. Duration of the disease, about one year and nine months.

Autopsy, twenty-four hours after death: Body emaciated.

Cranium: The cranial diameters were omitted, but were not unusual. The skull was a little thicker than usual; the arterial depressions were very distinct and some absorption of the bone had taken place along these channels. The dura mater was

decidedly thickened, and on its inner surface was found a bulky layer of new formation covering the whole convexity, the middle cerebral fossæ, and the anterior cerebral fossæ, embedding within it the olfactory tracts and other nerve trunks. The falx was covered by a thinner membrane; the tentorium and cerebellar portion were free from disease.

The false membrane was in some places $\frac{1}{2}$ of an inch thick, and could be separated into several thick layers, between which was serum, and a thin inner layer under which was liquid blood.

Brain: Weight, $31\frac{3}{4}$ ounces. The brain was much compressed by the hæmatoma, and small areas of adhesion between pia arachnoid and dura were found. The pia mater was somewhat opaque and seemed to adhere slightly to the cortex. The convolutions were shrunken, as were also pons and medulla. The ventricles were dilated and the ependyma very granular in the fourth. The cortex was reddened and the puncta vasculosa prominent in the posterior parts of the brain. The consistency was much reduced.

The lungs were hypostatic and presented small light areas of solidification supposed to be inhaled muco-purulent secretion from the bronchial tubes. Chronic bronchitis with bronchiectasis was present.

Liver: The upper surface was adherent to the diaphragm.

Spleen: Cartilaginous thickening of capsule.

Other organs normal.

MICROSCOPICAL EXAMINATION.

Brain: The vessels of membranes and brain were filled with blood, and there was some proliferation of nuclei. The perivascular spaces were somewhat larger than usual, and a few cells, blood, and pigment were found within them. A few small vessels were extremely tortuous, forming complete loops within the perivascular spaces. The nerve cells were considerably degenerated; some were yellow and shrunken, and others were normal in size, but granular and disintegrated at their margins.

In the medulla a few small degenerated cells and granulations of the ependyma.

The cord showed a few granular, yellow-tinted cells, and the central canal was open.

The other organs were as described above.

PART II.

Case 18.

B. F.; aged 54; colored; married; huckster; nativity, United States. This case of acute mania was of uncertain duration and no cause could be assigned, as there was no history previous to admission. The cause of death was exhaustion.

Autopsy, twenty-five hours after death: Body well nourished; bed-sore over sacrum.

Cranium: Antero-posterior diameter, 7 inches; transverse, $5\frac{1}{2}$ inches. Skull, normal; dura mater, slightly adherent to the bone, and the falx to the pia mater.

Brain: Weight, $44\frac{1}{2}$ ounces. Pia arachnoid of the convexity and the arachnoid at the base, slightly opaque.

The lining of the ventricles was granulated; otherwise nothing unusual was observed on section of the brain.

Lungs, emphysematous.

Slight valvular disease of the heart.

Spleen, atrophoid; liver, normal.

Slight interstitial change in the kidneys.

MICROSCOPICAL EXAMINATION.

Brain: The examination of the brain was almost negative. The membranes were slightly thickened and in the lower layer of the pia mater were a few extra nuclei. The blood vessels of the brain were not diseased; many contained blood, and within the perivascular spaces a little pigment was found.

The nerve cells showed some deepening of the normal yellowish tint of the cell body and some of the smaller cells were unusually pigmented. The larger ganglionic bodies contained larger accumulations of yellow granules than usual.

The other portions of the brain showed nothing unusual.

The naked-eye diagnosis of the other organs was confirmed.

Case 53.

S. S.; aged 41; colored; single; laborer; nativity, United States. A case of acute mania passing into terminal dementia. The cause given was intemperance. The duration was fourteen months. Death was caused by rupture of the endocardium of the right auricle.

Autopsy, four hours after death: Body well nourished.

Cranium: Antero-posterior diameter, 6 $\frac{1}{2}$ inches; transverse, 5 $\frac{1}{2}$ inches. Skull small but not diseased; dura mater slightly adherent at the vertex.

Brain: Weight, 44 $\frac{1}{2}$ ounces; membranes and brain substance pale; nothing abnormal was observed about the brain except congestion of the vessels of the fourth ventricle.

Lungs: Edema; chronic bronchitis; thrombosis of pulmonary artery.

Heart: The cavities of the right side were dilated and distended with blood, and rupture of the endocardium of the right auricle had occurred. Slight hypertrophy, and slight thickening of valves of left side.

Other organs normal.

MICROSCOPICAL EXAMINATION.

Brain: The membranes were not diseased, and the blood-vessels were normal except a few, which were tortuous and looped.

The nerve cells were almost normal in appearance. Some were slightly more yellowish than normal, and the large ganglionic elements were unusually pigmented. The pericellular spaces were small. A few extra nuclei were seen along the line of the vessels, and a few granules of pigment were found.

In the medulla oblongata some perivascular hemorrhages were found, and a few of the nerve cells were yellow and shrunken, probably normal retrogression.

Case 117.

M. W.; aged 34; single; soldier; nativity, Ireland. The cause given for this case was phthisis and the duration was not exactly known. The mental disease was passing into terminal dementia.

Autopsy, twelve hours after death. Body emaciated.

Abscess in left inguinal region.

Cranium: Antero-posterior diameter, 7 $\frac{1}{2}$ inches; transverse, 5 $\frac{3}{4}$ inches. Skull normal. Internal pachymeningitis of an early stage over both sides of the dura.

Brain: Weight, 48 ounces. Pia arachnoid normal. Convolutions slightly shrunken; otherwise the brain seemed normal.

Lungs: Extensive tubercular disease.

Heart: Pericarditis, with effusion.

Liver, spleen, and kidneys amyloid, and the left kidney was the seat of tubercular pyelo-nephritis.

The left testicle had a small tubercular abscess.

The left ureter had ulcerated through at its lower end, and by this channel the pus from the kidney had reached the groin.

MICROSCOPICAL EXAMINATION.

Brain: There was no disease of the cerebral vessels, but a few additional nuclei were seen in the brain substance along the line of some of the vessels.

Some of the nerve cells seemed a deeper yellow tint than normal and a few were evidently shrunken, but great numbers of cells appeared perfectly normal.

The nerve cells of the medulla more yellow than usual. The central canal of the spinal cord was closed.

The microscope confirmed the appearances of the other organs given above.

Case 118.

W. D.; aged 25; colored; single; laborer; nativity, United States. A case of acute mania, passing into dementia. The cause was phthisis, and death was caused by perforation of the bowel by a tubercular ulcer. The duration was six months.

Autopsy, three hours after death. Body emaciated.

Cranium: Antero-posterior diameter 7 $\frac{1}{2}$ inches; transverse, 5 $\frac{1}{2}$ inches. Dura mater, normal.

Brain: Weight, 37 $\frac{1}{2}$ ounces. Pia arachnoid oedematous and a slight hemorrhagic effusion on right side of convexity. Slight general shrinkage of convolutions, otherwise nothing abnormal was observed in the brain.

Lungs: Tuberculosis, and tubercular pleuritis of both sides. Heart normal; but almost all the other organs were tubercular. Perforation had occurred in the lower part of the ilium.

MICROSCOPICAL EXAMINATION.

Brain: The organ was not properly hardened, but it presented nothing unusual.

Case 137.

F. B.; aged 35; married; laborer; nativity, United States. This case of acute mania was supposed to be due to intemperance. The duration was eighteen months, and the disease was passing into dementia. The cause of death was typho-malarial fever, with cystitis.

Autopsy, twelve hours after death. Body fairly well nourished.

Cranium: Antero-posterior diameter $7\frac{1}{4}$ inches; transverse, $5\frac{5}{8}$ inches. Skull thick and dense. Dura mater normal.

Brain: Weight, $52\frac{1}{4}$ ounces. Some opacity of pia arachnoid, more noticeable on left side. Slight shrinkage of convolutions of fronto-parietal regions. Arteries at the base showed slight thickening at the carotid portions.

Lungs, heart, liver, spleen, and kidneys exhibited nothing abnormal.

Urinary bladder inflamed.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater and a few of the cerebral blood-vessels showed a slight increase of nuclei. The perivascular spaces were, in some instances, enlarged, and a few free cells and clumps of yellow pigment were found within them.

The nerve cells in general were but little altered. There was a slight deepening of the normal faint yellow tint of the cells, and some were found decidedly yellow, attenuated, and the nuclei stained darker than usual.

A few yellow and granular cells were found in the medulla oblongata.

The spinal cord was normal; central canal closed.

Case 150.

J. N.; aged 48; married; publisher; nativity, United States. This was a case of acute mania caused by syphilis and the subsequent excessive use of opium and alcohol. The duration was two months, and death was from exhaustion and inanition.

Autopsy, twelve hours after death. Skin jaundiced; scars over tibial regions; body emaciated.

Cranium: Skull was not measured, but was normal in dimensions. Slight internal pachymeningitis.

Brain: Weight, $45\frac{1}{4}$ ounces; pia arachnoid normal; slight shrinkage of the convolutions in the fronto-parietal regions. Ependyma faintly granulated.

Lungs normal. Slight hypertrophy and dilatation of heart.

Slight contraction of kidneys.

Liver normal. Gall bladder contained small calculi, but the ducts were pervious.

Enlargement of the spleen; weight, 5 pounds $14\frac{1}{2}$ ounces.

MICROSCOPICAL EXAMINATION.

Brain: The examination was almost negative. The blood-vessels were normal, and the nerve cells showed nothing but a slight deepening of the yellowish tint of the cell bodies, and perhaps some attenuation of some of the medium-sized cells. Nothing abnormal was found in the medulla except small granulations in the fourth ventricle. The spinal cord was normal; the central canal closed.

Case 191.

G. W.; aged 51; married; laborer; nativity, Scotland.

This was a case of acute mania of the most violent type, ending in complete mental and physical exhaustion after a duration of three months. The cause given was "business troubles."

Autopsy, nineteen hours after death. Body greatly emaciated. Othæmatoma of left ear.

Cranium: Antero-posterior diameter, $7\frac{1}{2}$ inches; transverse, $5\frac{5}{8}$ inches. Skull normal, dura mater slightly adherent to the bone.

Brain: Weight, 56 ounces. Slight opacity of pia arachnoid, and adhesions to the dura along the great longitudinal fissure. Veins of pia mater engorged; arteries of the base normal. Moderate shrinkage of the convolutions, and a softened condition of the brain substance, due in part to decomposition. Ventricles and ependyma normal.

Lungs: Tubercular and hypostatic.

Heart: Slight thickening of valves.

Kidneys: Moderate degree of interstitial change.

Other organs normal to naked eye.

MICROSCOPICAL EXAMINATION.

Brain: The brain tissue was somewhat altered by decomposition. Very little was found to account for the intense mental derangement.

The vessels, even the smallest capillaries, were full of blood; otherwise, nothing unusual was found in the vessels themselves. A little pigment was found in the perivascular spaces.

The nerve cells were more yellow than normal, and many were granular and their margins wasted. The large ganglionic elements in the motor region were unusually pigmented.

Nothing special was found in other parts of the cerebro-spinal system.

The lungs, and other organs, corresponded with the diagnosis made by the naked eye.

Case 241.

W. B.; aged 19; colored; single; laborer; nativity, United States. This was a case of acute mania of three months' duration, attributed to ill health. The lesions of the intestines found at the autopsy were supposed to be those of typhoid fever, the disease being masked by the active maniacal symptoms. Death was caused by hemorrhage from the bowels.

Autopsy, twelve hours after death. Body well nourished.

Cranium: Antero-posterior diameter $6\frac{5}{8}$ inches; transverse, $5\frac{5}{8}$ inches. Skull and dura mater normal.

Brain: Weight, 43 ounces. General appearance of the brain normal.

Nothing of importance was observed in any of the organs, except extensive ulceration of the lower end of the ilium.

MICROSCOPICAL EXAMINATION.

Brain: The organ was remarkable for the absence of signs of disease. The vessels were perfectly normal, and but few were filled with blood. The perivascular and pericellular spaces were small. The nerve cells were perfectly shaped, of a very faint yellowish-pink color, in carmine-stained sections, and the nuclei were well stained. The cells generally lay within small pericellular spaces, and sometimes from one to several nuclei were found in with the nerve cell. (This is also found in normal brains, and is a proof that the pericellular spaces are not of artificial origin.)

Yellow pigment, which is commonly found in the large cells of the motor regions, was in this brain very small in quantity, some of the cells being perfectly free from it.

In the medulla a few yellow shrunken cells were found, probably in the process of physiological retrogression.

The spinal cord was normal; the central canal was obliterated.

Case 5.

G. F.; aged 60; colored; married; plasterer; nativity, United States. This case was one with acute maniacal symptoms and right hemiplegia. The duration was three months. No history was obtained and the cause was unknown. The autopsy revealed haemato ma of the dura mater with pressure, greatest on the *left* side, and extensive disease of membranes, cerebral vessels, and nerve cells. It is probable that the same causes which led to the pachymeningitis, produced their effects upon the brain structure. Though the lesions were almost identical with those so frequently found in general paralysis, there was no clinical resemblance during the patient's residence in the hospital.

Autopsy, seventeen hours after death. Body well nourished.

Cranium: Antero-posterior diameter $7\frac{1}{4}$ inches; transverse 5 inches. Skull normal; dura mater adherent to the bone. A large haemato ma occupied the right side of the

dura mater and a recent false membrane with large extravasations beneath it covered the left side. Pressure was greatest upon the *left* side, shown by the flattening of the convolutions against the skull bone. The cyst of the haematoma was very large, and contained semi-fluid blood, and the walls were covered by a shreddy, brown deposit of fibrin.

Brain: Weight 40 ounces. The pia arachnoid was opaque, and the median surfaces were adherent over the corpus callosum. Arteries of the base atheromatous. The convolutions were shrunken in the frontal regions; the ventricles were dilated and the ependyma was granulated.

Lungs: Chronic pleuritic adhesions; anthracosis; hypostatic congestion, and a few calcareous nodules.

Heart: Slight valvular thickening and atheroma of the aorta.

Kidneys: Slight interstitial nephritis.

Other organs appeared normal.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was moderately infiltrated with nuclei and was thickened.

Many of the vessels of the cortex, and, to a less degree, those of the white substance, were decidedly diseased. They were thickly beset with nuclei, were often tortuous, and their perivascular spaces contained free cells and clumps of pigment. The vessels were generally filled with blood, and a few hemorrhages were found. An increase of nuclei in the brain tissue in the vicinity of the vessels was a common appearance.

The nerve-cells were yellow and granular, and many showed some disintegration of their margins. The pericellular spaces were large.

The outer layer of the cortex contained a few small branched cells, but none were detected elsewhere.

The nerve-cells of the medulla contained clumps of yellow pigment, and a few were found totally converted into brownish granules. The vessels were in a condition similar to those of the brain.

The spinal cord showed nothing unusual, except an open central canal, with the lining thrown into folds. The other organs were as described above.

Case 165.

E. J.; aged 50; colored; married; laborer; nativity, United States. No history of this case could be procured, except that he had been maniacal. During his stay in the hospital he was almost completely paralyzed in mind and body. He was but one week in the hospital, when he died from exhaustion. The exact nature of the mental disease could not be determined; but it was found to have been the manifestation of grave cerebral lesions.

Autopsy, six hours after death. Body well nourished; large bald patch, with cicatrization of the skin, on left side of head; apparently the result of a burn or scald.

Cranium: Antero-posterior diameter, $7\frac{1}{2}$ inches; transverse, $5\frac{1}{2}$ inches. Skull, asymmetrical; internal pachymeningitis of cerebellar fossæ.

Brain: Weight, 38 ounces. Pia arachnoid opaque over the whole convexity, and thickened along the great longitudinal sinus; arachnoid of the base, opaque; arteries normal; no adhesion of membranes to cortex; slight shrinkage of convolutions and atrophy of cortex; ventricles dilated, and their lining very granular.

Lungs: Pleuritic adhesions and a patchy exudate, probably inhaled from the bronchi.

Heart: Slight thickening of auriculo-ventricular valves.

Spleen: Atrophy and fibrous change.

Kidneys: Slight interstitial nephritis.

Other organs normal.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater was thickened and infiltrated with nuclei, and the cerebral vessels of both cortex and white substance showed nuclear growth in their walls and perivascular spaces. Some of the vessels contained thrombi.

A few spider cells were found in the first layer of the cortex, and the neuroglia cells seemed swollen. The nerve-cells were yellow and granular, and the pericellular spaces were enlarged.

The pia mater of the medulla was infiltrated and the vessels showed a slight increase of nuclei. Many cells contained clumps of coarse yellow granules, and in a few

the nuclei were obscured. The ependyma of the fourth ventricle was granulated. A few of the nerve cells of the spinal cord were yellow and their nuclei were obscured. The central canal was closed.

Other organs were as described above.

Case 185.

J. E. G. ; aged 49 ; colored ; married ; laborer ; nativity, United States. This case was in the hospital but a short time and the diagnosis was uncertain. The most prominent symptom was maniacal excitement, and for this reason it was recorded as acute mania. The cause given was intemperance, and the duration was about one month. The microscopical examination revealed grave organic disease of the brain, differing in no respect from that found in general paralysis of the insane.

Autopsy, five hours after death. Body well nourished.

Cranium: Antero-posterior diameter $7\frac{1}{2}$ inches; transverse, $5\frac{3}{4}$ inches. Skull and dura mater normal.

Brain: Weight, $47\frac{1}{2}$ ounces. Pia arachnoid slightly opaque. Convolutions were but slightly shrunken; the consistence of the brain firmer than usual. Ventricles slightly dilated and the ependyma was smooth. Vessels at the base normal.

Lungs: Chronic pleuritic adhesions and hypostatic congestion of posterior portions.

Heart: Slight valvular disease of left side, and some atrophy of the organ.

The kidneys showed passive congestion. Other organs normal.

MICROSCOPICAL EXAMINATION.

Brain: The pia mater showed great increase of nuclei in the vicinity of the vessels and in the sulci. The cerebral vessels of all kinds showed nuclear proliferation and thickening of their walls, and the perivascular spaces were enlarged and contained free cells, pigment granules, and extravasated blood. Some of the vessels were tortuous and distorted, and a few were found almost obliterated by growth of cells.

A large number of spider cells were found in the outer layer of the cortex of the gyrus fornicatus, and others were found scattered throughout the cortex elsewhere.

Many nerve cells were yellow and attenuated, and their nuclei stained deeper than usual; many were found with granular disintegrating cell bodies, but the nuclei seemed normal. Some cells presented a perfectly normal appearance. The pericellular spaces were not abnormally large.

In the medulla the vessels showed proliferation of nuclei in their walls and free cells in the perivascular spaces. A few small hemorrhages were found within the perivascular spaces.

Many of the nerve cells of the medulla were yellow and opaque, and a number of completely degenerated cells were found. The vessels of the spinal cord were in the same condition as those of the medulla, and the nerve cells presented similar changes. The central canal was obliterated.

The appearances of the other organs were not important.

SUMMARY.

In the foregoing study the number of cases of each form of mental disease is too small to form the basis of any general conclusions. The work was undertaken rather as a study of individual cases, grouping together those with somewhat similar clinical manifestations. For this reason three cases of acute organic dementia with paralytic symptoms (cases 253, 285, 300) have been placed with the cases of general paralysis, and three cases of acute insanity with maniacal symptoms, dependent upon organic cerebral disease (cases 5, 165, 185), have been studied with the cases of acute mania. It was hoped that some additional interest might be secured by this comparative method of study, especially in regard to the two main groups.

In the study of a number of cases of a disease with a well-defined morbid anatomy, repetition is unavoidable; but it was thought that minor differences would be of sufficient interest to make this permissible.

In all the cases of general paralysis characteristic gross lesions were found. Of the less common conditions, slight abnormality of the skull was found in several cases; adhesion of dura mater to the bone in four, and inflammation of its internal surface of various degrees in five cases.

The pia mater and arachnoid showed changes in all the cases; but in order to preserve the brain better for microscopical study, the membranes were never entirely removed; therefore reference to the adhesion or non-adhesion of the membranes applies only to the portion examined.

The heaviest brain of the paretic cases weighed $47\frac{1}{2}$ ounces; the lightest, 30 ounces. The average weight of the fifteen cases was $41\frac{9}{10}$ ounces.

The few lesions found in the cases of acute mania were mainly evidences of cere-

bral irritation and vascular disturbances. As several of these cases were without history the known causes of such conditions may be considered. Intemperance, sun-stroke, and syphilis probably leave their traces upon the brain, but as yet these are indefinite, and not well studied.

The heaviest brain of the eight cases of acute mania weighed 56 ounces; the lightest weighed 37½ ounces; the average weight was 46½ ounces, a much greater average than in the cases of paresis.

The cases of organic dementia and mania require no special mention.

As a rule the microscopical appearances have been recorded without comment, but with the recognition of disputed points in cerebral pathology; and knowing that the greatest care is requisite to avoid accidental changes in the tissues during their preparation for the microscope, the writer has personally conducted every step of the process.

The tissues were as a rule stained in bulk before cutting the sections, and when prepared by the usual interstitial imbedding methods and fixed to the slide before removing the imbedding material, it is believed that the least possible displacement of the elements is secured.

The various preparations of carmine have been found to be the most useful staining agents.

The foregoing report is respectfully submitted to the Superintendent.

I. W. BLACKBURN, M. D.,
Special Pathologist.

GOVERNMENT HOSPITAL FOR THE INSANE, *August 15, 1889.*

NOTE.—During the year 67 post-mortem examinations were made, but the above cases were selected from the records as the subject of a special study.

APPENDIX B.

No. 207 A STREET, SOUTHEAST, WASHINGTON, D. C., April 1, 1889.

SIR: I have the honor to present herewith a summary of dental work performed at the hospital. In consequence of a more systematic arrangement more has been accomplished in a given time:

Number of patients for whom teeth have been filled during year ending March 31, 1889	100
Number of teeth filled during year ending March 31, 1889	385
Total number of patients for whom teeth have been filled during period from June 1, 1886, to March 31, 1889	191
Total number of teeth filled during the period from June 1, 1886, to March 31, 1889	777

During the past year considerable progress has been made in examining the teeth of patients, other than those actually suffering. In two of the wards all have been put in reasonably good condition, except those of a few patients who refused to have anything done. We are now going through the third ward.

Precedence is always given to cases of actual suffering and to necessary extraction.

In the wards that I have visited, the patients—many of whom are of foreign birth—have, as a rule, strong, but sadly neglected, teeth. A very few cleanse the teeth daily. It would be desirable if more could be induced to do so, as contributing, not only to the preservation of teeth and gums, but to the general health. Every one must appreciate the difficulty of accomplishing this, and the extra care of the attendants which it would involve.

Very respectfully,

J. V. CALNER, D. D. S.

Dr. W. W. GODDING,
Superintendent.

